THE FARM INDEX

ECONOMIC RESEARCH SERVICE ☆ U.S. DEPARTMENT OF AGRICULTURE ☆ NOVEMBER 1964

OUTLOOK 1965

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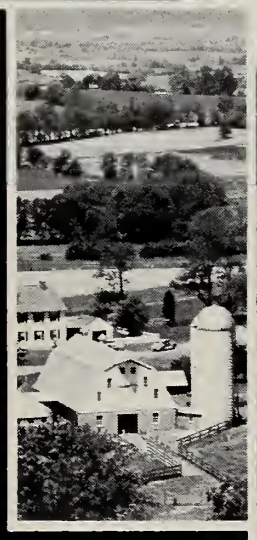
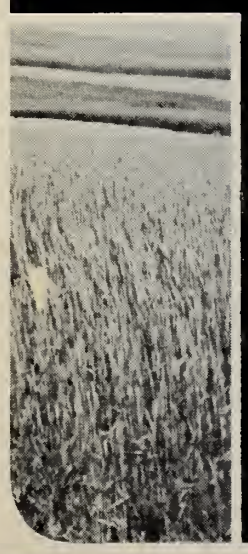




Economic Trends

ITEM	UNIT OR BASE PERIOD	'57 - '59 AVERAGE	1963		1964		
			YEAR	SEPTEMBER	JULY	AUGUST	SEPTEMBER
PRICES:							
Prices received by farmers	1910-14=100	242	242	242	234	232	236
Crops	1910-14=100	223	237	232	234	226	228
Livestock and products	1910-14=100	258	245	250	234	237	244
Prices paid, interest, taxes and wage rates	1910-14=100	293	312	311	312	313	313
Family living items	1910-14=100	286	298	297	300	300	299
Production items	1910-14=100	262	273	273	269	269	270
Parity ratio		83	78	78	75	74	75
Wholesale prices, all commodities	1957-59=100	—	100.3	100.3	100.4	100.3	100.7
Commodities other than farm and food	1957-59=100	—	100.7	100.7	101.1	101.1	101.1
Farm products	1957-59=100	—	95.7	95.5	94.1	93.6	95.6
Food, processed	1957-59=100	—	101.1	100.9	101.2	101.0	102.2
Consumer price index, all items [1]	1957-59=100	—	106.7	107.1	108.3	108.2	—
Food	1957-59=100	—	105.1	105.4	107.2	106.9	—
FARM FOOD MARKET BASKET: [2]							
Retail cost	Dollars	1,037	1,078	1,082	1,099	1,091	—
Farm value	Dollars	410	394	390	406	409	—
Farm-retail spread	Dollars	627	684	692	693	682	—
Farmers' share of retail cost	Per cent	40	37	36	37	38	—
FARM INCOME:							
Volume of farm marketings	1957-59=100	—	115	131	110	117	131
Cash receipts from farm marketings	Million dollars	32,247	36,925	3,512	2,683	2,925	3,430
Crops	Million dollars	13,766	17,045	1,806	1,121	1,315	1,706
Livestock and products	Million dollars	18,481	19,880	1,706	1,562	1,610	1,724
Realized gross income [3]	Billion dollars	—	41.7	—	—	—	41.6
Farm production expenses [3]	Billion dollars	—	29.2	—	—	—	29.1
Realized net income [3]	Billion dollars	—	12.5	—	—	—	12.5
AGRICULTURAL TRADE:							
Agricultural exports	Million dollars	4,105	5,585	433	479	419	—
Agricultural imports	Million dollars	3,977	4,011	343	317	315	—
LAND VALUES:							
Average value per acre	1957-59=100	—	—	127[6]	135	—	—
Total value of farm real estate	Billion dollars	—	—	148.1[6]	154.9	—	—
GROSS NATIONAL PRODUCT [3]	Billion dollars	456.7	583.9	587.2	—	—	627.5
Consumption [3]	Billion dollars	297.3	375.0	377.4	—	—	404.5
Investment [3]	Billion dollars	65.1	82.0	82.8	—	—	86.5
Government expenditures [3]	Billion dollars	92.4	122.6	122.8	—	—	130.0
Net exports [3]	Billion dollars	1.8	4.4	4.2	—	—	6.5
INCOME AND SPENDING:							
Personal income, annual rate	Billion dollars	365.2	464.1	468.9	491.4	494.9	497.1
Total retail sales	Million dollars	17,105	20,536	20,426	21,964	22,268	22,027
Retail sales of food group	Million dollars	4,159	4,929	4,897	5,272	5,230	—
EMPLOYMENT AND WAGES: [4]							
Total civilian employment	Millions	64.9	68.8	69.0	70.6	70.5	70.3
Agricultural	Millions	6.0	4.9	4.9	4.9	4.8	4.8
Rate of unemployment	Per cent	5.5	5.7	5.5	4.9	5.1	5.2
Workweek in manufacturing	Hours	39.8	40.4	40.7	40.6	40.7	40.6
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	2.46	2.47	2.53	2.52	2.56
INDUSTRIAL PRODUCTION [4]	1957-59=100	—	124	126	133	134	134
MANUFACTURERS' SHIPMENTS AND INVENTORIES: [4,5]							
Total shipments, monthly rate [4]	Million dollars	28,736	34,774	34,672	37,963	37,150	—
Total inventories, book value end of month	Million dollars	51,158	58,807	59,087	60,488	60,716	—
Total new orders, monthly rate	Million dollars	28,374	35,036	34,991	39,315	37,519	—

[1] Beginning Jan. 1964, new ser. [2] Av. ann. quantities of farm food products based on purchases per wage-earner or clerical-worker family in 1952—estimated monthly. [3] Ann. rates seasonally adj. 3rd qtr. [4] Seasonally adj. [5] Rev. Ser. [6] As of July 1.

Sources: U.S. Department of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Department of Commerce (Industry Survey, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Department of Labor (The Labor Force and Wholesale Price Index).

COMMODITY HIGHLIGHTS

Look ahead to next year. How will farming fare? To get an idea, here's what USDA is saying this month at the annual National Agricultural Outlook Conference.

• Fed cattle prices will probably hold much of their recent strength through the winter. Lighter slaughter weights than a year earlier, a decline likely in slaughter during late 1964 and reduced hog slaughter will tend to keep prices up. However, any gains in prices are likely to be limited by large supplies of cow beef and poultry meat. Prices during the spring and summer of 1965 will depend largely on the number and weight of cattle put on feed during the next few months.

• Due to reduced slaughter, hog prices are likely to show strength through mid-1965. The 1964 pig crop is down roughly 7 per cent from last year. The downtrend probably will continue well into next year; early signs of the pig crop from December through February in the Corn Belt point to a cut of perhaps 13 per cent from a year ago.

• Broilers may bring slightly higher prices in 1965 after the near-record low in 1964. Output may keep going up but probably not as much as in the past two years.

Turkey production next year may increase also; prices this year are expected to average a little below 1963. However, the industry continues to cut costs.

Egg output will likely go up next year, based on a gain in the laying flock and a continued uptrend in eggs per layer.

• Milk output in 1965 is likely to stay near 1964's level. Cow numbers keep dropping but production per cow continues to rise.

Milk and dairy product consumption will probably keep going up but not enough to halt the slow decline in use per person. Exports and domestic donations should keep stocks at relatively low levels.

• Expected total use of wheat in the 1964-65 marketing year is down somewhat from a year ago, as exports will slip more than any gains likely in domestic use. However, the wheat supply is the smallest since 1957-58 so carryover next July 1 may about equal the relatively low 900 million bushels this year.

The average wheat price to farmers in July-September was $1.34 a bushel, considerably below a year earlier. However, supplementary payments to farmers in the wheat program will keep 1964-65 farm income from wheat near the $2.3 billion in 1963-64.

• With this fall's feed grain crops down from 1963, prices during the 1964-65 marketing year will probably be up a little from the year before. Total use may slip somewhat because of fewer animals to be fed in 1964-65. Nevertheless, the reduced crop will trim the feed grain carryover next year—perhaps 10 to 12 million tons.

• Supply and use of soybeans during the 1964-65 marketing year are expected to be in close balance, indicating favorable grower prices, close to those the year before.

Carryover into the marketing year was up from 1963-64, but the crop this fall isn't much different from last season. The uptrend in use is expected to resume after the slump last year.

Soybean crushings are likely to rise and exports probably will set a record—edging above the previous high last season.

• The cotton situation this fall features another large crop and sharply rising mill use. The crop reflects record yields; harvested acreage is down slightly from last year.

Cotton mill use this season may be at the highest level since 1950. Lower cotton costs to domestic mills, due to 1964 cotton legislation, are contributing to the gain in consumption. But the increase probably will not be big enough to keep the carryover of all cotton from rising again next summer.

(See page 13 in the magazine for a special outlook supplement to the Handbook of Agricultural Charts, A.H. No. 275.)

MACHINES MOVE IN

Harvesters ideal for picking California's high yield cotton

The cotton gin and the cotton harvester.

One made cotton worth producing and tied huge amounts of labor to production.

The other mechanized picking and reduced the need for hand labor. As a result, the machines have claimed the jobs of many seasonal farm workers.

Cotton harvesting machines went into operation rapidly in the irrigated fields of southern California because they are ideal for the large farms and high yields typical of production in this area. Consequently, the need for seasonal labor to pick cotton in this state is almost a thing of the past.

Now, farm labor specialists figure that mechanization of the cotton harvest displaced around 25,000 workers in Kern County during a 12-year period. Eventually, practically all of the crop will be harvested mechanically.

Cotton isn't the only crop using seasonal labor in Kern County. But, it is important to farm workers because it fits into their annual work pattern. In January, the only seasonal jobs available are pruning grapes and cutting seed potatoes. Some employment scrapping cotton may still be offered. Depending on the weather, thinning sugar beets and picking peas starts in February and continues in March.

In April, the pace picks up a little as potato picking and cotton chopping begin. Labor requirements rise during May and reach a peak in early June as grape girdling and the harvest of cantaloupes and plums comes up.

In July, labor use drops off in Kern County and many workers move on the fruit harvests in the central part of the state. Then August arrives with the grape harvest. In September, the cotton is picked. A few workers can still find employment picking out the bolls that the machines miss at the ends of the rows and near the ground.

During the remainder of the year, a limited amount of hand labor is needed to pick fall potatoes, tomatoes and naval oranges.

However, individual workers in Kern County don't follow the pattern of seasonal labor too closely. This is due in part to the wide fluctuations in the number of people hired at different times of the year. It also is due to specialization in labor.

Some workers are involved only in cotton operations. Others work with potatoes and tree fruits as well.

A good part of the specialization in seasonal labor is a matter of job status. "Stoop" labor in sugar beets and peas has the lowest status. Work in potatoes, cotton and grapes is next with picking "ladder" fruit even more desirable. Job status is so strong that many seasonal workers will go without an income rather than take a job at a level they feel is inferior.

Seasonal workers as a group have lower status than general farm workers. General workers are employed full-time as equipment operators, irrigators, foremen and technical, clerical or administrative assistants.

When farm labor specialists conducted a survey of 696 farm workers in Kern County during 1962, they found that 61 per cent were hired for seasonal jobs. Twenty-five per cent were classed as general farm workers. The re-

maining 14 per cent were either employed in plants processing farm products or were working part-time.

The general farm workers were employed an average of 233 days during the year. Seasonal workers were under-employed: Heads of households averaged 138 days of work; wives, 67 days; and school age children, 50 days. Seasonal workers in cotton were worse off compared to the total seasonal worker group with heads of households averaging 130 days; wives, 48 days, and children, 40 days.

Almost two-thirds of the seasonal workers were women or youth. Considering this, plus the relatively few days that seasonal workers were employed, their low level of earnings compared to general farm workers and the processing and part-time worker group isn't surprising. Seasonal workers averaged only $854 per person during 1961 compared with $2,847 for general farm workers. The heads of seasonal worker households reported their average income at $1,233. *(1)*

Dairy Farmers Still in Business Have More Cows, Acres, Income, Investment

Which farms drop out of business? The operations with fewer acres, limited investment, smaller herds and lower incomes, according to a study of dairy farms in Wisconsin. The study was conducted by ERS in cooperation with economists at the University of Wisconsin.

The purpose of the Wisconsin research was to examine the characteristics of farms that dropped out of business between 1951 and 1961.

What happened to the farm families? Who took over the land? What changes occurred in the acreage and financial status of the farms?

The study disclosed that only 189 of the 262 farms surveyed in 1951 remained in operation as separate units 10 years later. One hundred forty-seven of the farmers were still on the same farm in 1961; 42 new farm operators had taken over the farms that became available.

The farmers who left during the decade gave varying reasons for leaving. Some quit because of health. Some said the income from farming was too low; they found they could do better working elsewhere.

In a few cases, unusual circumstances forced the decision to move (the barn burned, the herd contracted TB and was sold, etc.). Among the older men, retirement or death accounted for most of those who left farming.

To see what differences there were between the farms held by the same operators between 1951 and 1961 and those that changed hands, comparisons were made of the number of cows, average investment, farm and nonfarm income and acreage operated.

The men who stayed on the same farm averaged 17 cows in 1951 and 22 in 1961. The farms that had changed operators during the decade had 19 cows in 1951 and 26 in 1961.

The farms that had new operators had an average of 165 acres in 1961 compared with 129 acres 10 years earlier. Farmers on the same farms reported 154 acres in 1961 and 145 acres in 1951.

Although the average investment had increased for both groups, it was considerably higher for the men who had changed farms. They had land, buildings, equipment and herds worth $42,933 in 1961, compared with $35,286 for the men who stayed put during the 10-year period. The 1951 figures were $33,489 and $29,528, respectively.

The new operators who took over these farms had larger cash farm incomes compared with the men who stayed on the same farm. Nonfarm income was more important for the men who remained on the same farm than for those who changed. Cash farm income for those who stayed on the same farms was $2,783 in 1951 and $2,895 in 1961, with nonfarm incomes going from $923 to $2,570.

For the group of farms with different operators, the figures were $3,256 cash farm income with $300 nonfarm income in 1951. In 1961, the figures were $4,158 in returns from farming and $2,000 from off-farm sources.

Roughly a fourth of the farmers who moved onto survey farms between 1951 and 1961 started farming with some sort of family help or partnership agreement; only 11 per cent of the operators on the same farms had family help.

Half of the men on the same farms purchased their land when they began farming, compared with only a fourth of the men starting out in the 1950s.

Half of the 73 farms that ceased to be separate units during the 10-year period remained in production as purchased or rented additions to neighboring operations. Nonfarm use claimed 12.5 per cent of the vanishing farms. The others went in the Soil Bank, were left idle, or both. *(2)*

New Census of Agriculture Will Count Farmers, Farms, Acres and Animals

It's time to count heads again. Farmers' and ranchers' heads, that is. In other words, the 1964 Census of Agriculture begins this month.

Mail carriers will get things rolling by leaving a questionnaire in each rural mail box early in the month. All farm and ranch operators are required by law to answer the questions on the census form.

A week or two after the questionnaire is delivered, a census enumerator will visit the farm to pick up the questionnaire, checking to make sure all the queries

are answered. Then the figures will be tabulated.

Beginning next April, the new Census of Agriculture figures will begin to flow. For the first time since 1959, a count of farms by county, state and nation will be available. The number of people living on farms, a figure last published in the 1960 Census of Population, also will be announced.

The new census figures will include two important "firsts". They are information about farmers' use of pesticides and figures on income from such recreation services as hunting and fishing privileges and room and board for sportsmen.

The 1964 census figures for states will be used by USDA as guides for the periodic estimates of farm numbers, production, income, acreage, livestock and poultry output and so forth. *(3)*

New Figures Reveal that Farmers Owe $6.7 Billion to Merchants, Dealers

Farmers owe $2¼ billion more than anyone thought they did.

That's the difference between old and new estimates of non-real estate debt owed by farmers to "nonreporting lenders." These are the merchants, dealers, finance companies, individuals and other groups who satisfy a good part of the short- and medium-term needs for cash to run the farm.

With the help of the 1960 Sample Survey of Agriculture, conducted by the Bureau of the Census, specialists in ERS were able to prepare benchmark estimates of farm debt for January 1, 1961. The benchmark figures were then used to reevaluate the existing annual estimates of the amount of non-real estate debt held by the nonreporting lenders.

The revised estimates indicate the nonreporting creditors held a total of $6,720 million in non-real estate debt of farmers on January 1, 1964. Earlier estimates put the figure at $4,500 million.

THE BALANCE SHEET OF AGRICULTURE

New highs in farm assets and equities and cash receipts from farm marketings figured in the 1963 farm financial scene.

The value of farm assets on January 1, 1964, totaled $223.3 billion, up $7.5 billion from a year earlier. The gain was due to climbing values of farm real estate, machinery and motor vehicles and farmer-owned crop inventories.

Owners' equities in farm assets were $188.4 billion, $4.4 billion above January 1, 1963. Cash receipts in 1963 came to $36.9 billion, up $800 million from 1962.

Gross farm income set a new record at $42.2 billion last year. Farmers grossed $41.5 billion in 1962. But 1963 production expenses gained, too and cut net farm income back to $12.5 billion. This was slightly less than the $12.6 billion in 1962 net farm income.

Realized net farm income was a record $3,504 per farm in 1963. In 1962, the figure was $3,420 per farm. **(5)**

	1963	1964[2]
	Billion Dollars	
ASSETS		
Physical assets:		
Real estate	142.8	150.8
Non-real estate		
Livestock	17.2	15.7
Machinery and motor vehicles	19.5	20.1
Crops[3]	9.2	9.8
Household furnishings and equipment	8.7	8.4
Financial assets:		
Deposits and currency	9.2	9.2
U.S. savings bonds	4.4	4.2
Investments in cooperatives	4.8	5.1
TOTAL	215.8	223.3
CLAIMS		
Liabilities:		
Real estate debt	15.2	16.8
Non-real estate debt owed to:		
Commodity Credit Corporation[4]	2.1	1.9
Other reporting institutions[5]	8.5	9.5
Nonreporting creditors[6]	6.0	6.7
TOTAL	31.8	34.9
Proprietors' equities	184.0	188.4

[1] For 48 states. [2] Preliminary. [3] Includes all crops held on and off farms as security for CCC loans. [4] Nonrecourse CCC loans secured by crops owned by farmers. [5] Loans from private banks, production credit associations, Farmers Home Administration and discounts of federal intermediate credit banks for agricultural credit corporations and livestock loan companies. [6] Loans and credits from dealers, merchants, finance companies and individuals.

When the new estimate is coupled with the figures for reporting institutions, total non-real estate debt as of January 1, 1964, turns out to be $16,185 million.

Reporting institutions include banks, production credit associations, the Farmers Home Administration and federal intermediate credit banks.

Until the new census figures were available, estimates of the amount of debt held by nonreporting lenders were based on the trend in reported loans plus information on unreported loans from a few area studies. The method worked well enough for the years up to 1957. But from then on, the method did not reflect the full rate at which non-real estate debt held by nonreporting lenders was climbing.

The figures for non-real estate debt of these nonreporting lenders include only credit for farm expenses, not loans for family living purposes. *(4)*

Fallowing Wheat, Barley Acreage Can Boost Yields, Profits the Next Year

How can a farmer growing small grains in north central North Dakota make the most money through crop diversion? By making his fallow land equal to the wheat and barley acreage he intends to crop the year after diversion.

Farmers who participate in wheat and barley diversion programs at the minimum level to qualify for support prices often can up their profits by diverting additional land voluntarily. Economists in the North Dakota Agricultural Experiment Station, cooperating with the Economic Research Service, have come up with the following strategies for boosting profits through diversion programs.

If under a grain diversion program a farmer is allowed to fallow more wheat and barley acreage than he normally does, he can increase his income by diverting first more wheat land, and then some barley acreage.

Then, the next year he should plant as much of his wheat crop as possible on the land which has remained idle. Any additional fallow not planted to wheat should be used for barley.

Why wheat before barley when it comes to both diverting and planting? Because over a two-year period, a farmer reduces his total output less by letting wheat land lie idle than by fallowing barley acreage.

Diverting an acre of wheat to fallow means a drop in production of 16.5 bushels, the average yield per acre for the area when land is cropped continuously. But the following year, when wheat can be planted on fallow land, yields rise nearly 6.9 bushels over the average. This means that even though the land has lain idle for one year, the farmer's total output in the two-year period is 23.4 bushels per acre. Only 9.6 bushels of wheat were lost through diversion.

But in the case of barley, each acre yields about 24.5 bushels of barley equivalents (based on the feed value of wheat). Therefore, diverting barley acreage means a loss of 24.5 bushels of barley equivalents while the land is lying idle. And, while planting barley on fallow land the following year will boost yields by 8.7 bushels, a farmer will still have lost 15.8 bushels of barley equivalents by letting his barley acreage lie idle for one year.

A farmer has to expect that participating in a diversion program in general will reduce his output slightly, even with higher than average yields the second year. But with higher payments made for voluntary diversion than for minimum diversion, he will often find that fallowing additional land will increase income despite production decreases.

When the normal fallow acreage on a farm and the required minimum diversion exceed what a farmer intends to plant the following year, profits will decrease with further diversion. *(6)*

Early Orange Crop Is Up Considerably Thanks to Gains in Florida and Texas

Good weather and intensive care of their groves have helped orange producers in Florida and Texas bounce back from the severe freeze of two years ago. As a result, the output of early, midseason and Navel oranges in Florida this year was forecast on October 1 at 44.6 million boxes, 60 per cent above 1963-64. The estimate of the Texas crop is about 700,000 boxes, four and a half times 1963-64.

In contrast to the gains in the states hit by the 1962 freeze, the California crop forecast for Navel and miscellaneous varieties is down 5 per cent and Arizona production is down 14 per cent.

Total output of early, midseason and Navel oranges has been estimated at 60.6 million boxes, up 37 per cent from a year ago.

Demand for oranges is expected to be good this fall. Sales of fresh fruit should be heavy throughout the 1964-65 season. Processors will take a generous share, too. Despite market prospects, season-average prices to growers are likely to be lower than last year due to competition from deciduous fruits. *(7)*

Buying Secondhand Machinery Saves Money for Colorado Wheat Farmers

The machines get bigger—and so do the bills.

But wheat growers in eastern Colorado have found that buying secondhand equipment cuts down not only on the original investment but on the annual cost of the machinery as well. Savings have amounted to as much as 30 to 45 per cent on the secondhand equipment, compared with the same items bought new.

Other farmers are sharing the cost of new machines with their neighbors and lowering annual costs just as much.

In 1960, economists in the Colorado Agricultural Experiment Station and the Economic Research Service interviewed 127 farmers in the northeast and east central areas of Colorado. At the time of the survey, machinery investment on farms in the northeast area averaged about $14,000 per farm and about $13,000 in the east central area.

Average savings on secondhand equipment for the 127 farmers on such annual costs as depreciation and insurance, when compared with similar machines purchased new, were: 44 cents less per hour of use for secondhand 4-plow tractors; 7 cents less per acre for 15-foot oneway plows; 83 cents less per acre for 14-foot grain combines; and 18 cents less per acre for 14-foot grain drills.

Joint ownership of machinery

also offered some handsome savings. A 50 per cent ownership of a tractor, drill and combine together in 1960 could have saved a farmer with 400 acres of cropland as much as $5,900 in average machinery investment and $800 in annual fixed costs.

Naturally, secondhand machines or joint ownership won't work in all situations. In fact, custom hiring, in some instances in the study, cost less than owning the machinery even when it was bought secondhand. For example, with less than 200 acres of grain to harvest, custom hiring was cheaper than owning a secondhand 14-foot, self-propelled grain combine.

However, with 200 to 325 acres harvested, owning the secondhand machine turned out to be cheaper. Over 325 acres, farmers did best to buy new equipment. Many farmers who owned a combine still planned on using custom combines to speed the harvest during good crop years. *(8)*

Least-Cost Irrigation Systems in Calif. Depend on Rates for Water and Labor

Three items determine the cost of irrigation—capital, labor and water. The actual investment depends on the cost of each and the combination used. Finding the cheapest combination has become important to farmers in many parts of California where both wages for labor and the cost of irrigation water have shot up in recent years.

Economists recently studied least-cost irrigation systems at various prices for water, wages and capital invested in equipment. They used information supplied by irrigation engineers to put together 10 different water distribution systems. These systems included the use of open ditches or concrete pipelines with different lengths of run as well as pumps to return unused water. Two soil types, silty clay and sandy loam, were considered.

Where wage rates are high, water can be substituted for part of the labor by investing in labor saving structures such as concrete pipe. Conversely, labor can often be used to conserve water. For example, a man hired to control the water flow into the check or furrow can reduce water losses.

Researchers found that with wages of $1 an hour or less and water at $4 per acre-foot, concrete main lines and laterals a quarter-mile apart are the cheapest combination for the sandy loam farms. This setup was recommended when wages were $1.25 and water cost $2, too.

Using capital in place of water or labor depends on the kind of irrigation setup. The least capital is needed for a simple system of unlined earth ditches to carry the water from the head gate or pump to a head ditch. A cut in the head ditch permits the water to run into the furrow or check. Rowpipe, spiles or siphons can also be used to get the water to the crop.

While unlined ditches require only a limited investment, the disadvantages are several. An earth ditch system entails a large amount of labor to set, move and supervise the ditch cuts, spiles or siphons. Because the system is open, land is taken out of production. If the ditches are used for any length of time, weed control is a problem. And, water losses due to evaporation and seepage can run as high as one-third of the initial supply.

Concrete pipe installed underground has most of the advantages that earth ditches lack. Of course, the capital investment is much higher but labor is cut sharply, especially for close-growing crops like alfalfa and barley.

Money spent on services or machinery can reduce loss of irrigation water from percolation below the root zone, too. The solution is to grade and level the field between head ditches and use the recommended water application. Installing a return water system to pick up the overflow or tailwater at the lower end of the field helps cut water losses, also.

Farm size influences where it's economical to spend money on equipment in order to conserve irrigation water. The higher capital requirements per acre on small sandy loam farms compared to the large operations mean that water costs have to be greater before the shift to concrete pipe is economical. For example, concrete pipe paid off with charges of $5 per acre-foot for water and wages at 75 cents an hour on the small operations. A pipe layout was recommended with water at $4 per acre-foot on larger farms.

Irrigation systems on heavy, silty clay soils place more emphasis on saving labor than water. Concrete main lines are cheapest at relatively low water costs. Since the water doesn't seep into the heavy soil as fast as it does into sandy loam, a minimum water charge of $8 per acre-foot with hourly wages of $1 are necessary before concrete laterals at quarter-mile intervals would be profitable. The size of silty-clay farms made little difference in determining which system to use.

A system of earth ditches pays off for both soil types only when there are no charges for water and wages are only 75 cents an hour. *(9)*

Tomatoes Catch-up

"Love apples" don't frighten anyone anymore. In fact, it's hard to believe that tomatoes could ever have been believed poisonous. Today, this vegetable is versatile as well as popular, particularly in processed form.

Use of processed tomato items in 1963 was over 47 pounds per person (fresh equivalent basis), about a fifth larger than in 1950. Per capita consumption in 1963 was about 11 pounds each of catsup and paste, 9 of tomatoes, 8 of juice, 6 of sauce, and 2.5 of pulp and puree. *(10)*

As Farm Opportunities Decline, Rural Dropouts Face Less Promising Future

School dropout rates are higher for rural than for urban young people. Whether in city or country, the problem of school dropouts results from a long process involving family, student and school.

Family income and the education and occupation of parents are closely related to dropout rates. For both urban and rural 16- and 17-year-olds whose fathers had completed less than eight years of school and whose family incomes were less than $3,000, dropout rates were identical in 1960—31 per cent. Rural dropout rates average out higher than urban because low income families with little education and low status jobs are more concentrated in rural areas.

At ages 7 through 15, between 93 and 98 per cent of all children are enrolled in school. There were no appreciable rural-urban differences in enrollment rates for this age group in 1960.

There were significant differences, however, for both the kindergarten and college age groups. In 1960, about 46 per cent of all urban 5-year-olds were enrolled in kindergarten, compared with 23 per cent of rural-nonfarm and 16 per cent of farm 5-year-olds.

Dropout rates are much higher among students who don't make normal progress in school. The head start urban children get by going to kindergarten may have something to do with the lower proportion of urban students enrolled in grades below those normal for their age. Among 15-year-olds in school in 1960, about 1 in 8 urban children was in a grade below the norm for his age. About 1 in 5 rural children the same age was similarly behind.

Of those students who finished high school in 1959-60, almost half of the urban graduates enrolled in college. Only a third of the rural graduates did so.

In the near future, at least, more young people will enroll in vocational agriculture in high school than can find opportunities in farming.

Such opportunities will continue to decline, due to the drop in farm numbers, farm consolidation, increasing capital requirements and continued technological advances that reduce the need for farm manpower.

This doubly handicaps the rural dropout. Not only must he compete for fewer jobs with graduates from his own community; he may have to migrate to the city and compete with the even better prepared urban graduates. *(11)*

Underemployment Is Major Component Of Rural Areas' Low Income Problems

Though they don't have a monopoly on poverty, rural areas do hold most of the pockets of low income which are becoming significantly worse off relative to the national average.

In 1959, for example, counties having no town as large as 5,000 persons comprised 91 per cent of the U. S. counties in which family median incomes (a) fell in the bottom two-fifths in the nation; and (b) showed percentage increases between 1949 and 1959 of less than half the national average.

Much of the low income problem in rural areas is not unemployment but *under*employment. It is estimated that in 1959 there was underemployment among rural workers 20 to 64 years old equal to joblessness for 2.2 million men. This amounts to 13 per cent of the 16.5 million rural workers in this age group.

ERS compared incomes for groups of males living on farms with the average for groups from the economy as a whole. The comparison groups were matched for age, educational level, participation in the labor force and proportion of nonwhites. Even though carefully matched for earning capacity, the farmers made less money at every age.

Farm males between 20 and 24 years of age came nearest to incomes comparable to the national norm. Their median incomes would have to be raised only 34 per cent to equal those of men in nonfarm jobs with the same earning capacity. The increase would have to be 50 per cent for farm males 25 to 34 years of age; 52 per cent for those from 35 to 44; 68 per cent for those 45 to 54; and 88 per cent for those 55 to 64.

Rural areas with low incomes have relatively large proportions of family heads in the older age groups, or who are women or persons with physical defects. Another characteristic is a dependency ratio—the number of dependent age persons per 100 persons of "working age" (20 to 64 years)—higher than the national average.

Farm households average the same number of persons under 20 and over 65 years of age as they have between 20 and 64. This gives a dependency ratio about 10 per cent higher than the national average, and 16 per cent greater than the dependency ratio of urban people.

Rural areas have a somewhat higher birth rate than the national average, so there are many very young children. With many young adults leaving, the proportion of older people in the rural population continues to grow. By 1970, the number of farm operators 45 years old and over may still exceed three-quarters of a million, compared with about 1 million now. The number under 45 years old will probably be reduced from the present one-half million to less than one-fourth million by 1970. So, the older segment, twice as large as the younger now, may be about four times as large by 1970. *(12)*

INCOME FIGURES UNDERSCORE POVERTY FACTS

	Median family income, in dollars			
	U.S.	Urban	Rural nonfarm	Farm
1959	4,791	5,199	4,013	2,951
	U.S.	Urban and rural nonfarm		Farm
1963	5,490	5,631		3,164

	Family income groups in 1959, by per cent			
	U.S.	Urban	Rural nonfarm	Farm
Under $2,999	32.5	29.0	39.1	50.7
$3,000 to 5,999	30.4	29.8	32.5	29.4
$6,000 to 9,999	25.1	27.3	20.8	13.7
$10,000 to 24,999	11.1	12.7	6.9	5.7
$25,000 and over	1.0	1.2	0.6	0.5

THE POOR AMONG US

Poverty in rural areas is a problem involving some 16 million persons, six million of them farm residents who are concentrated in the southern and southeastern states

The problem—poverty.

Its magnitude—35 million Americans—half in rural areas.

For an individual or a family, poverty is too little income for a socially acceptable way of life. On a community level, poverty means poor schools, inadequate medical services and lack of good roads.

Just how low their income must be to place people in the poverty group depends on family size, health, age, value of owned assets and other factors. However, as a working measure, the poverty line has been set at $3,000 in annual cash income for families and $1,500 for individuals. This line gives the 35 million mentioned earlier. Thirty million of these persons are part of roughly 9 million families.

Some 16 million of the nation's poor are in rural families. About 6 million are farm residents. By and large, poverty-stricken rural people are concentrated in the southern and southeastern states including parts of eastern Texas and Oklahoma and much of Missouri and Appalachia.

The rural poor are three times more likely to be white than nonwhite (Negro or American Indian). They commonly have less than eight years of schooling and have a woman or a senior citizen as the family head. About 1¾ million poor rural youth are a prime target of the war on poverty.

In 822 counties, more than half the rural families had 1959 incomes of less than $3,000. Due to the limited employment opportunities and the inadequate farms typical of poverty regions, local governments often have tax bases too small to properly support schools and hospitals.

Although education isn't an all-inclusive solution for poverty, it can help future generations. However, the schools in rural areas typically have average expenditures per pupil much lower than those in urban areas. School transportation costs are higher in rural areas, too. So, less money remains for teachers' salaries which are often too low to attract high-caliber people.

Clearly the war on poverty must be fought with more jobs and more training, as well as welfare programs. Research is needed to help us find the best mixture for each region. An all-out effort to wipe out poverty could be well worth the investment. Economists figure that by 1980, improved work opportunities for rural people could add $40 billion a year to the gross national product of the United States. *(13)*

"Poverty Bill" Is Newest in Arsenal Of Weapons for the War on Poverty

Approximately 925 of our 1,616 predominantly rural counties are considered to be serious low income areas. Some 12 million people live in thousands of rural communities and small towns that have been steadily losing the most productive segments of their population.

As the problem has deepened, so too has the concern of the Congress. Witness, for example, the new weapons added to our arsenal in just the past few years: the Area Redevelopment Act of 1961, setting up a *long-term* program to expand economic growth in depressed areas; and the Accelerated Public Works Act of 1962, which complemented the ARA program with shot-in-the-arm, *short-term* development activities.

One provision of the ARA is for 16 weeks of occupational training for the unemployed in depressed areas. Under the Manpower Development and Retraining Act of 1962 and its 1963 amendments, both unemployed and underemployed individuals became eligible for 52 weeks of training.

The Vocational Education Act of 1963 placed new emphasis on the occupations where employment opportunities are expanding, to supplant traditional agricultural programs. And it authorized federal grants to states to develop part-time employment for youth who need it to stay in school.

Under the Food and Agriculture Act of 1962, many individual farmers became eligible for additional help in changing cropping systems and land use to develop soil, water, forest, wildlife and recreational resources.

The Economic Opportunity Act of 1964 supplements and strengthens existing programs, establishing an office to coordinate efforts at all levels. It provides work-training and work-study programs and a job corps for young people, grants to states for basic education programs for illiterate adults, aid to migrant workers and their families, and assistance to community action programs. It provides loans both for small businesses, with special emphasis on employment of people long out of work, and for low income rural families. It also provides for a "domestic Peace Corps." *(14)*

Commercial Banks Only Source of Loans For Building Most Rural Area Homes

Fresh air, open space, peace and quiet. People in rural areas often give these reasons for preferring to live in the country. Other families who would like to enjoy the serenity may find it's a luxury they can't afford because they can't finance a rural home.

A study made cooperatively by the University of Missouri and ERS showed that commercial banks were the only financial institutions in most small Missouri towns. Resources of rural banks were too small to finance all the housing needs in their communities. And, the typical loan made by these banks was for a little over half of the purchase price with a repayment over six years at 6 per cent.

In contrast, the national average for conventional home loans is roughly 70 per cent of the purchase price. Repayment of a loan of this size is generally over 20 years. The interest rate is about the same as the small-town bank loan.

Savings and loan associations, mostly located in cities, made few housing loans in rural communities. This was true also of life insurance companies, the Federal Housing Administration and the Veterans Administration. However, the Farmers Home Administration does offer rural housing loans for new construction or improvements. *(15)*

Study Underway in Prairie Provinces Should Be of Interest in Great Plains

Great Plains residents facing the consequences of rural depopulation have a lot in common with their neighbors to the north, in the three Prairie Provinces of Canada. In Manitoba, Saskatchewan and Alberta, just as in our Plains States, many rural areas are paying for an increasingly industrialized, urban society in terms of loss of population, political power, employment opportunities and community identity.

But rural residents are paying this price without sharing in the amenities of modern life. In Saskatchewan, the differences between rural and urban housing remain almost what they were 10 years ago, with rural housing much more often crowded, in need of major repairs and without running water.

Also, rural areas generally have few of the public services that are taken for granted in urban centers. For example, less than a third of the incorporated towns and villages in Saskatchewan have a water or sewer system. Fewer still have paved streets, libraries, hospitals or local fire protection. As rural areas lose population, the cost of extending public services across the prairie, or even just across town, falls on fewer and fewer people, less and less prosperous businesses.

The growth of cities can give nearby farming communities a new lease on life, but the opposite effect seems more common in the Prairie Provinces. Rapidly growing cities such as Regina and Saskatoon have taken business away from the merchants in rural towns and villages as far out as 50 miles.

Vigorous competition between rural communities in Saskatchewan, to attract the relatively few people left, hasn't helped. Instead, it has resulted in needless duplication of public services and fa-

cilities, placing an excessive financial burden on rural communities and weakening their competitive position in relation to urban centers. For example, the average annual increase in property taxes per capita during the past decade was only $4.30 for Saskatchewan cities but $6.10 for rural municipalities.

Less, rather than more, competition may be desirable from the standpoint of maintaining or improving rural services and facilities. In the Prairie Provinces, the total number of rural municipalities has dropped sharply in the last decade. In Alberta, the 319 rural municipalities of 1951 had become only 97 in 1961. Saskatchewan has seen a small amount of consolidation during the past decade; extensive changes are expected during the next few years. Manitoba, which had fewer but larger rural municipalities to begin with, is under less pressure to reorganize.

The regrouping of local governments is just one of the ways Canadians are moving to meet the challenge of urbanization. To provide a factual and analytical base for rural housing and development programs in western Canada, the Center for Community Studies at the University of Saskatchewan is studying the effects of urbanization on housing and related facilities and services in the three Prairie Provinces. The research is supported primarily by the Central Mortgage and Housing Corporation, a federal agency with functions similar to those of the U.S. Housing and Home Finance Agency.

Its findings, on what permits some rural towns and villages to survive, or even prosper, while others fade; and on the effects changes in the structure of population (with respect to age, income, education, occupation) have on housing requirements, should interest people concerned with resource development in our own Great Plains. *(16)*

Industry by Day, Agriculture by Night Is Choice of Many Rural Breadwinners

Dual job-holding among farmers is a sign of America's rapidly changing agriculture. It's a form of transition . . . adjustment to change.

Families living on today's small, inefficient, low income farms face four alternatives: (1) Maintain the status quo and perpetuate the unacceptable level of living; (2) add and recombine production inputs to create an economic farm unit; (3) get out of farming entirely; or (4) combine farm and nonfarm employment.

Many farmers have chosen the fourth alternative. According to a recent ERS study, the proportion of part-time farms increased from roughly 12 per cent of all farms in 1954 to 20 per cent in 1959. However, since there are considerably fewer farms, the total number of part-time farms has declined. Not only are a greater proportion of farmers working off the farm; they are working in nonfarm jobs more days per year. The proportion of farm operators who worked 200 or more days off the farm in 1959 was four times the figure in 1934—23.6 per cent compared with 6.0 per cent.

Most part-time farmers these days hold 40-hour a week, year-round jobs in industry. They are full-time industrial workers who farm in their spare time.

They think of their dual role as a relatively permanent way of making a living. To them, it's not a way to get either in or out of full-time farming. Among the others, some are using this means to ease out of farming entirely. And some are trying to put together a bundle of resources sufficient for full-time farming.

The part-time farmer on the average is younger than the full-time farmer. He has completed more years of school. He works more hours per year and the same is true of members of his family.

He has likely been a dual job-holder for eight to 12 years and worked for the same employer for about five years. He is probably living in his native state, or even in the community in which he grew up. If he moved at all, it was before age 30 or 35.

He doesn't, on the average, farm as large a unit as a full-time farmer. This is true for any measure of size—total acres, tillable acres, value of assets, income, man-work units, head of livestock.

He is likely to own a larger percentage of the land he farms than a full-time farmer because he's not under the same pressure to increase his income by leasing more land for expansion.

Why does he hold both jobs? Partly for the money. In addition to the built-in opportunity for "overtime" work—and income—that a farm provides, there are indirect monetary benefits. First, the home produced and consumed farm products may cut food costs substantially. Second, the value of his investment is increasing with the general increase in land values.

Another reason for holding both jobs: environment. He feels that a farm is a good place to bring up children. And if it's near his home town, the part-time farmer can retain kinship and community ties.

There are other advantages that dual job-holders mention. Some feel that having two sources of income is a form of job security. And the arrangement gives them variation in work routine.

Of course, there are also disadvantages. Leisure time may be hard to come by. Access to the services and varied activities of urban life may be limited. And the returns to labor and investment in the farm operation are likely to be low. *(17)*

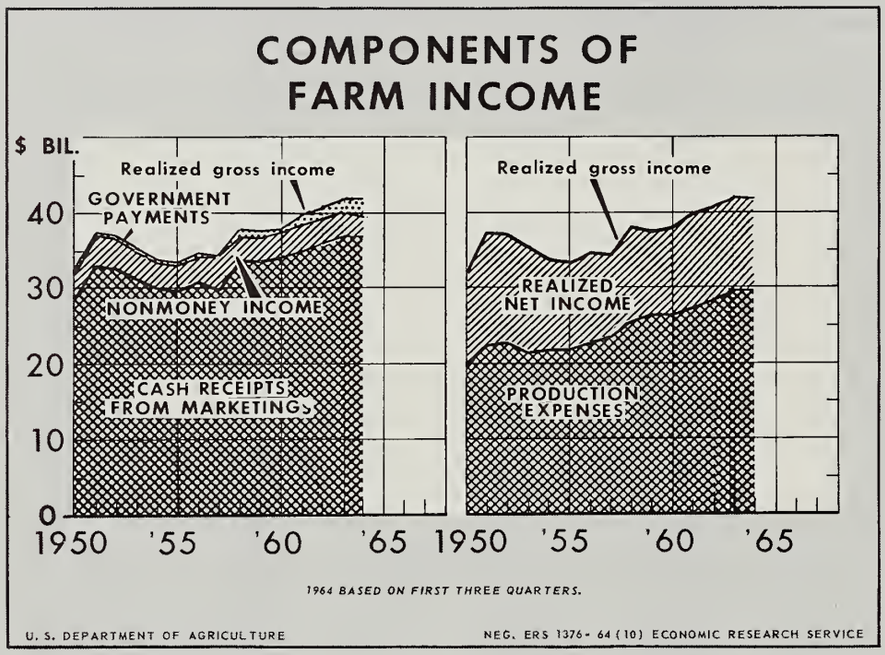
The Chartbook Supplement which follows on the next eight pages can be removed from the INDEX and used separately.

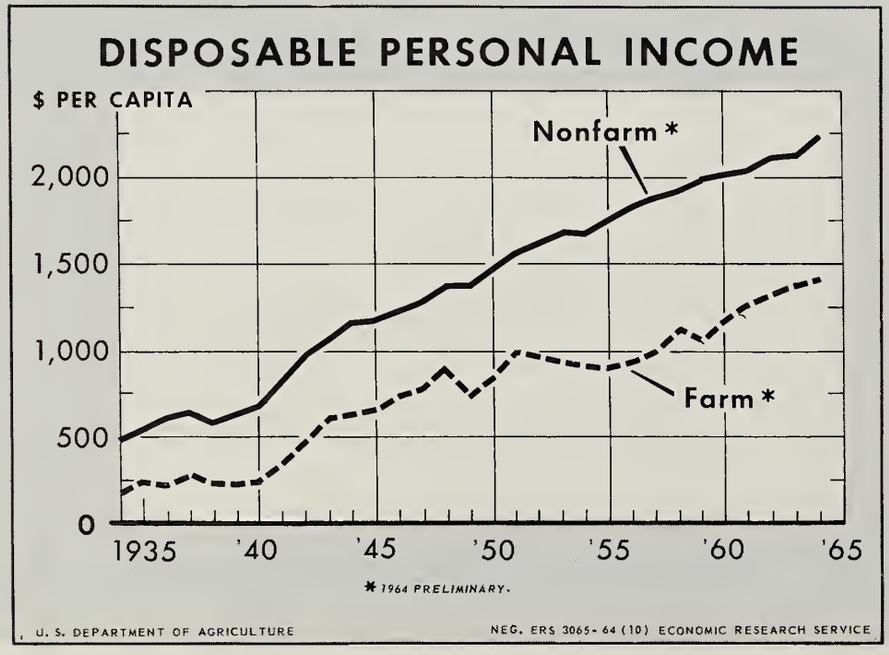
★ **Chartbook:** Outlook for 1985
★ Economic Research Service
★ U.S. Department of Agriculture

FARM FORECAST '65

Domestic markets for farm products are expected to continue expanding in 1965 and exports probably will come near the record of 1963-64. The general economic picture for 1965 adds up to another strong advance in business activity. Large supplies of food, fiber and tobacco will again be available to meet the needs at home and abroad.

Farmers' gross income in 1965 may be near the levels of the past two years. Some gains are likely in receipts from livestock and products. Smaller receipts from crops may be about offset by larger government payments. The rise in production expenses slowed this year compared with preceding seasons and expenses next year are expected to again show a relatively small gain. Thus, realized net farm income is likely to be around the annual rate of $12.4 billion that has been maintained in the first three quarters of 1964.





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Net Farm Income Near 1963: For the first three-quarters of 1964, realized net farm income has been at the annual rate of $12.4 billion —1963 has been estimated at $12.5 billion.

Realized gross farm income gained slightly this year due to a rise in government payments, which more than offset a small decline in cash receipts from marketings.

The rise in production expenses for 1964 is well below average. This year's increase has been about offset by the gain in realized gross income.

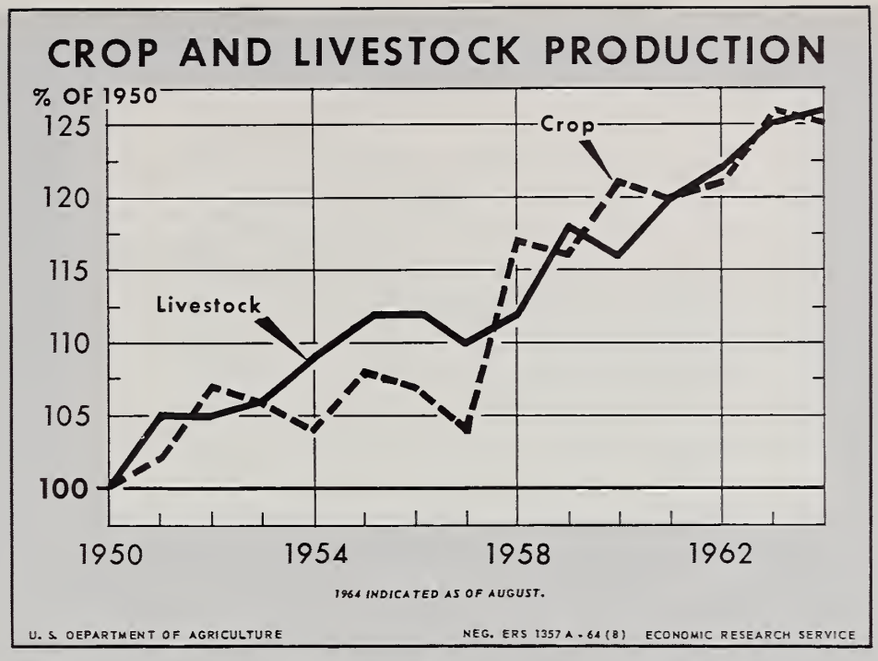
A Little More in Farmers' Pockets: The net income realized per farm during 1964 has been running about 3 per cent above the $3,504 of a year ago. And farmers' nonfarm income has gained this year, too. So, disposable personal income per capita for the farm population in 1964 is expected to be higher than the $1,376 estimated for last year. This figure was 63 per cent of the $2,181 in disposable income for the nonfarm population.

In 1965 net income realized per farm and per capita disposable personal income of farm people probably will rise again.

Farm Output Near Record: Early estimates of total farm output in 1964 indicate that it will be about 1 per cent less than the high in 1963. This year is only the second time since 1950 that farm production slipped a little from the previous year.

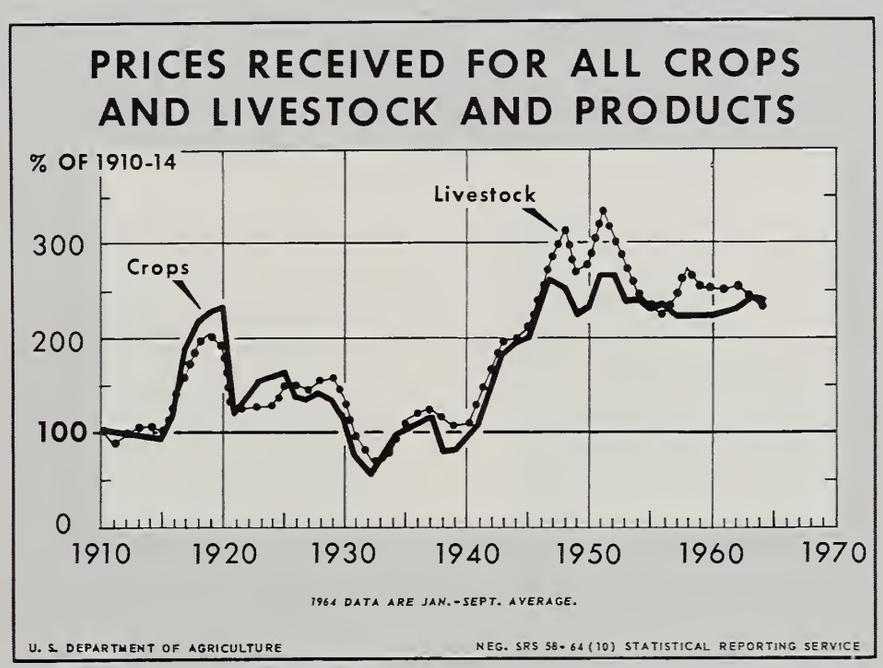
Livestock output has set another new record so far this year. Gains have been made in production of milk, poultry products and meat, particularly beef.

Crop output in 1964 has been running about 3 per cent smaller than in 1963. Cropland used for crops has been steady and output per acre slightly under the previous high a year ago.



Farm Prices Down Slightly: Prices for farm products continued to slip a little during 1964 and are expected to average 2½ per cent below 1963. Most of the decline has been in livestock prices, particularly those for beef and poultry. However, market prices for crops have been under last year's levels since June.

With average growing conditions and no major changes in current farm programs, prices for farm products may drift lower in 1965, due largely to lower market prices for crops. Despite this, the effect on farmers' incomes will be lessened by larger government payments for participation in crop programs.

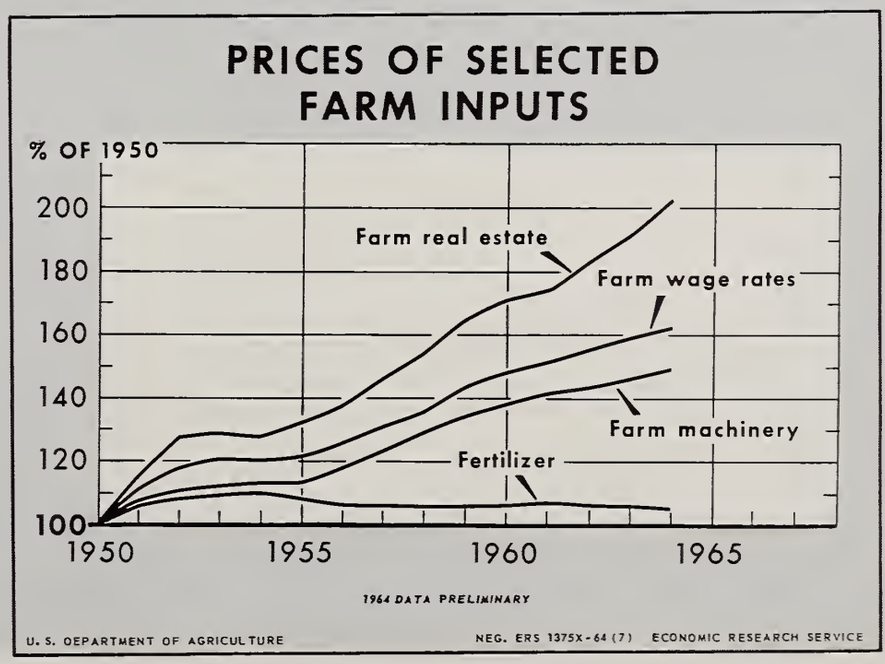


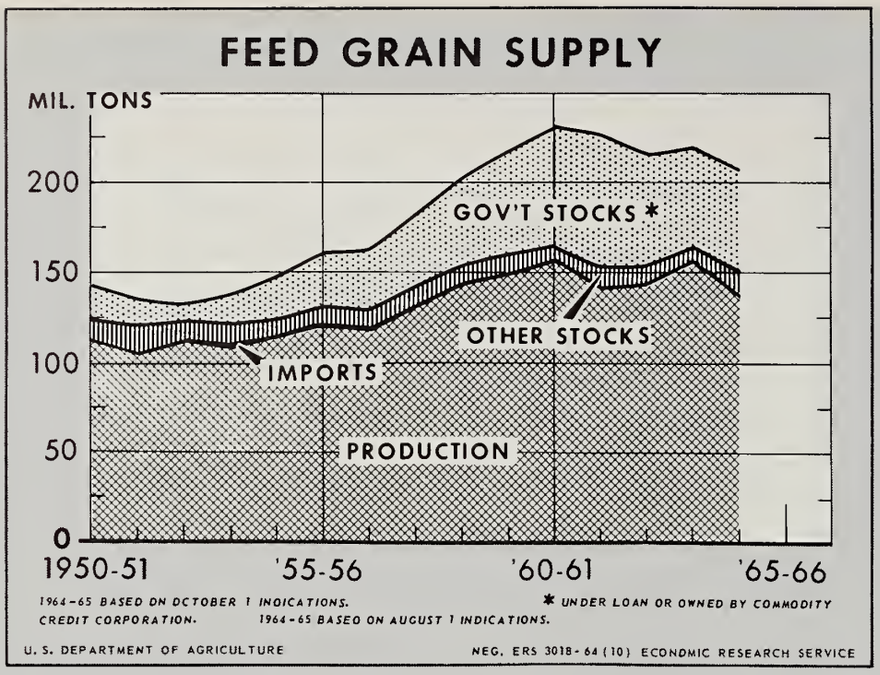
Inputs More Costly: The interest, taxes and wage rates farmers paid and prices for production items averaged 21 per cent more in 1964 than in 1950.

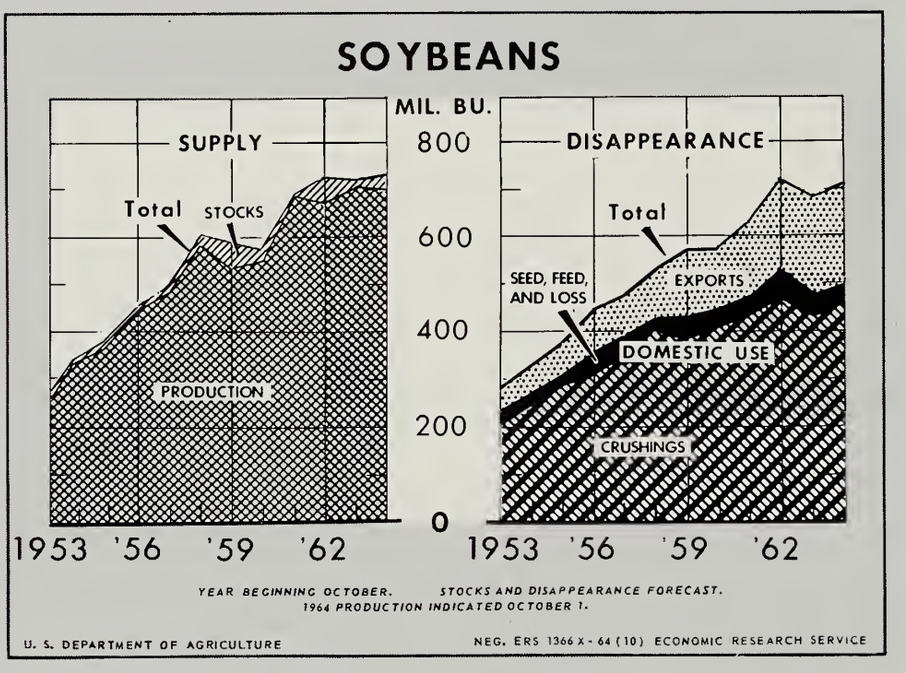
The largest increase was in land prices which have more than doubled since 1950. And farmland values are likely to gain again in 1965.

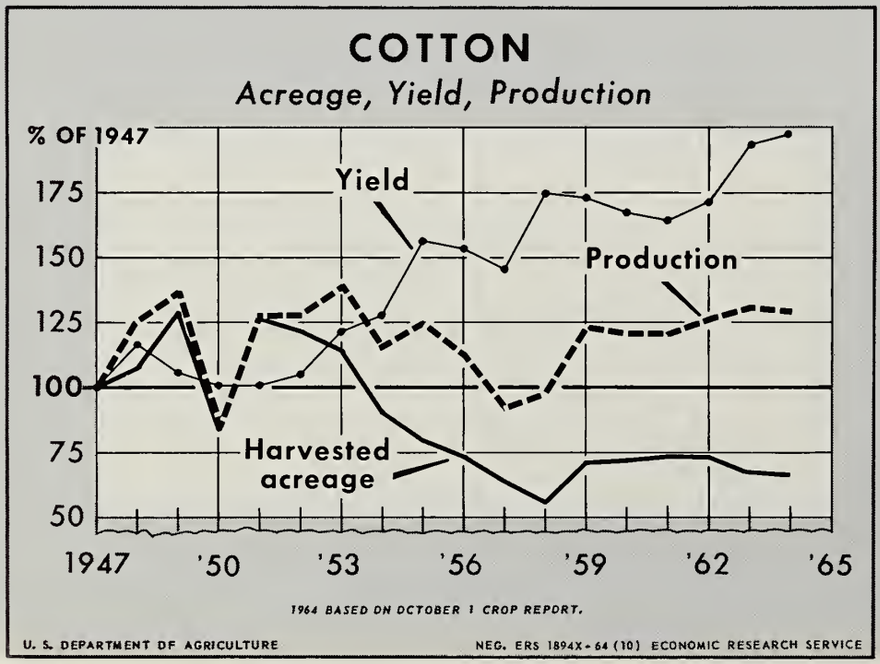
Farm wage rates and farm machinery prices also have risen more than the average for all purchased inputs. They probably will continue to gain next year.

Fertilizer prices have been relatively stable since 1950 and are likely to remain so in 1965.









Feed Grain Supply Below 1963-64: The 1964-65 feed grain supply totaled 206 million tons, down 6 per cent from the 1963-64 marketing year. The reduction is due to the smaller crop this year, estimated in October at 137 million tons, 19 million less than in 1963.

The crop reduction was offset in part by a gain of 5 million tons in the 1963-64 carryover which totaled 69 million tons.

Although a small decline in use of feed grains is likely in 1964-65 from the preceding year, utilization is expected to exceed the 1964 crop by around 11 million tons, reducing the carryover into 1965-66 to around 58 million tons.

Soybean Supply, Use Rising: Soybean supplies at the beginning of the 1964-65 marketing year were estimated at a record of about 730 million bushels. A year ago, supplies totaled 717 million bushels.

Despite lower yields, production in 1964 is near last year due to a gain in harvested acreage.

Use of soybeans in 1964-65 is expected to follow the long-run uptrend. Crushings probably will be above last year while exports gain slightly and set a new high.

Farm prices for beans are expected to continue well above the CCC support rate during harvest and average close to 1963-64 levels for the year.

Cotton Continues Trends: Since the end of World War II, cotton acreage, yields and production have changed considerably. While acreage trended down, yields climbed and more than maintained production on the reduced acreage.

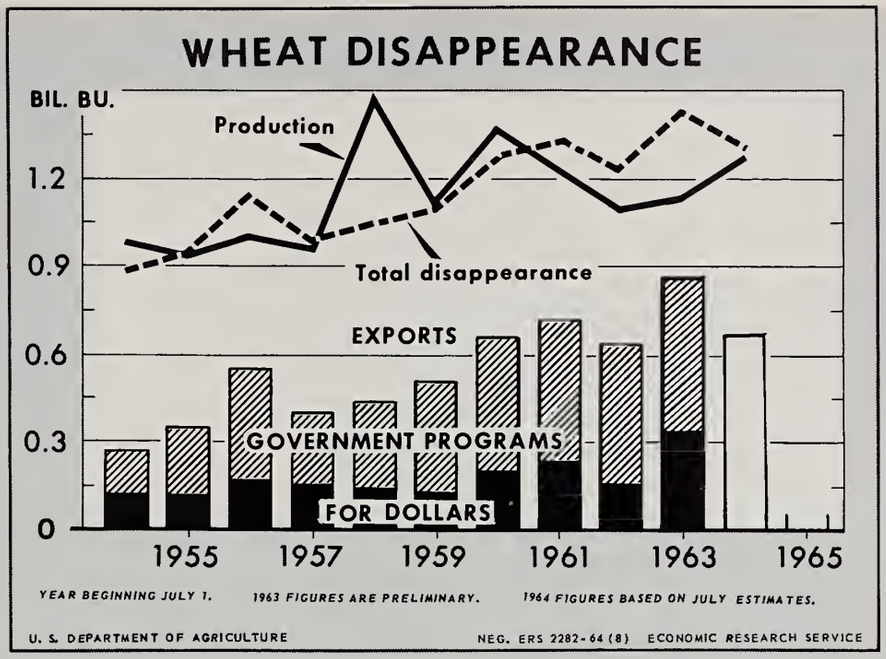
The postwar cotton trends have continued in 1964. Yields are expected to set a new record. They are again boosting output enough to offset a cut of 1 per cent in acres harvested.

The cotton yields indicated for this year are almost double the 1947 figure. Production is up 30 per cent from 1947 on 34 per cent less harvested acreage.

Larger Wheat Crop to be Used: Disappearance of wheat in marketing year 1964-65 is expected to about equal this year's 1,286 million bushel crop—610 million for domestic use and 675 million for exports.

Most of the gain in domestic disappearance will be in use for feed. Use of wheat by millers is expected to be unusually low in 1964-65 because flour stocks held by mills were larger than normal at the end of 1963-64.

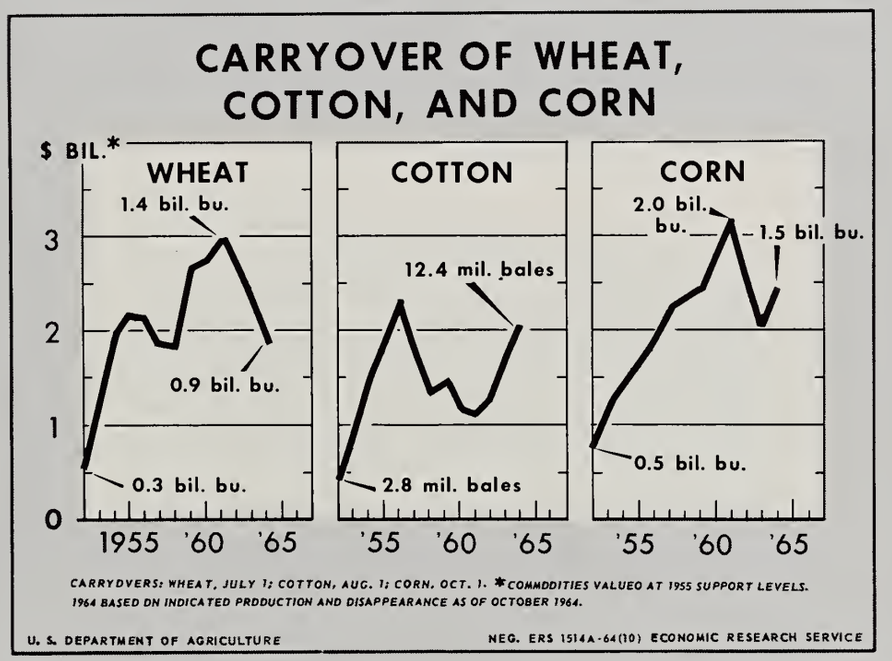
Exports are expected to be down from the record level in 1963-64 because 1964 crops in many countries that bought U.S. wheat last year are improved.



Wheat Stocks Down; Cotton, Corn Up: Carryover of all wheat on July 1, 1964, totaled 900 million bushels, 300 million less than in 1963. Carryover in 1965 is expected to be at about the same level.

Cotton carryover on August 1, 1964, amounted to 12.4 million bales, up over a million from a year ago. CCC stocks were 10.4 million bales.

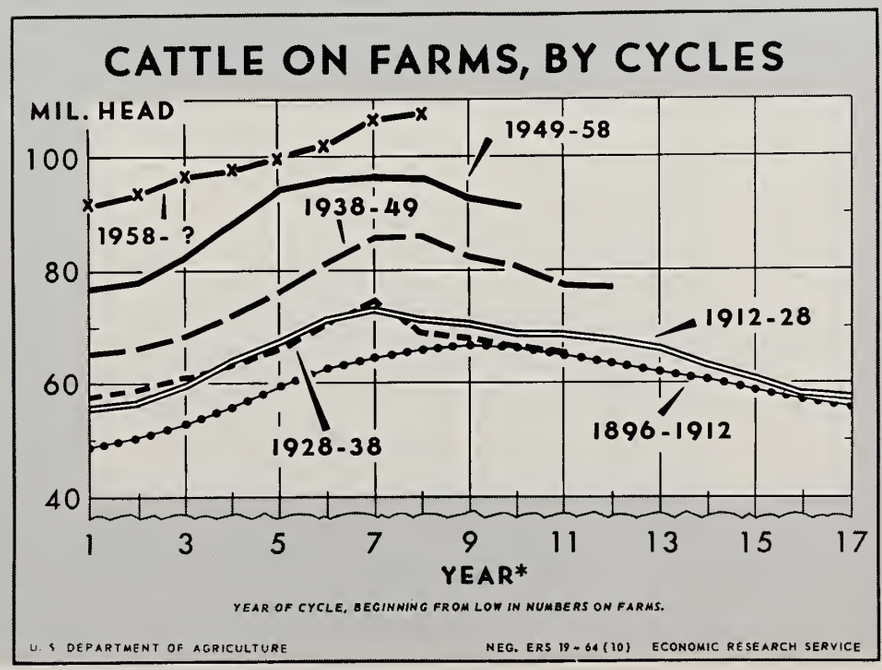
Corn stocks on October 1 were 1,510 million bushels, 164 million higher than at the start of the 1963-64 marketing year. With a smaller crop and a high level of use, stocks next October 1 are likely to be down about 200 million bushels.

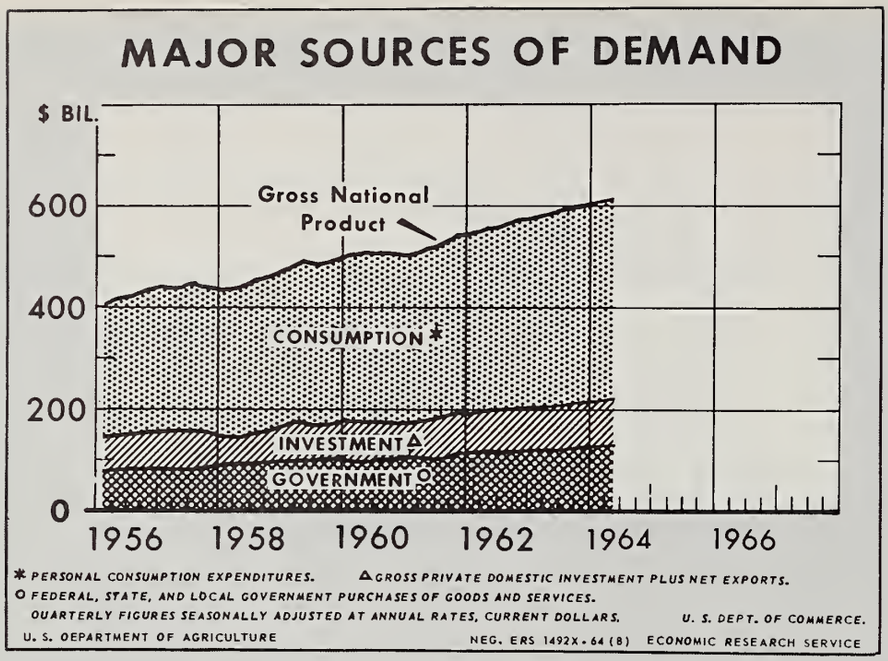


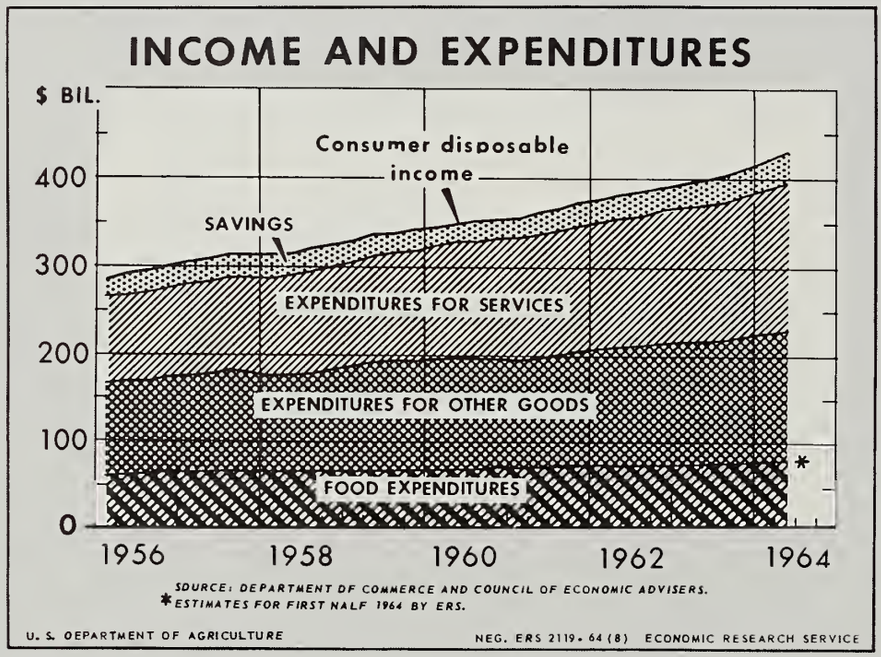
Upswing in Cattle Cycle Slows: The increase expected in the number of cattle and calves on farms on January 1, 1965, over a year earlier may be only a fourth as large as the average gain of 2.5 million head during 1959-63.

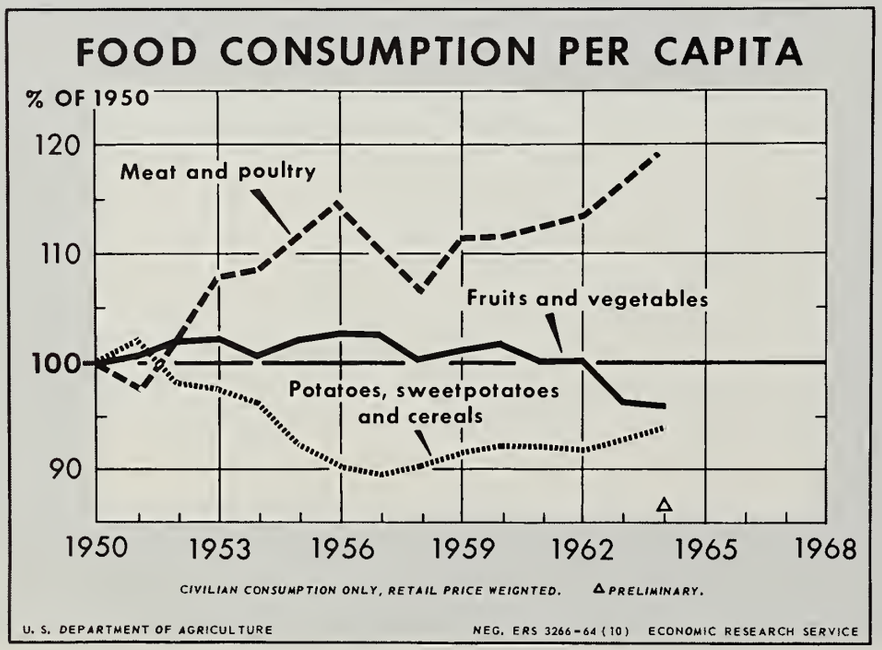
The January 1 inventory is likely to be less than 1 per cent above the 106.5 million on farms January 1, 1964. The slower rate of increase in cattle numbers this year has been the result of larger slaughter and a decline in imports of live animals.

The number of cattle slaughtered during the first nine months of 1964 was up 12 per cent over last year.









GNP to Continue Gaining: During July-September this year, the value of all goods and services produced in the U.S. economy reached a level 7 per cent above a year earlier.

Most of the expansion during 1964 has been in the private sector. The rise is largely in consumer purchases of goods and services and business outlays for new plants and equipment.

Prospective gains in consumer buying, business investment and purchases by state and local governments during 1965 indicate a further rise in business activity, though possibly not as large as the big advance this year.

Consumer Incomes Still Climbing: A combination of increased wages and other personal income and reduced tax rates boosted consumers' after-tax income in the third quarter this year to a rate some 8 per cent above the same period in 1963. The gain was roughly 6½ per cent per person. As a result, consumers bought more goods and services and increased their savings.

Consumers' buying intentions for cars, appliances and other durable goods are well above a year ago. Extra income is likely to encourage additional purchases of nondurables and services, too.

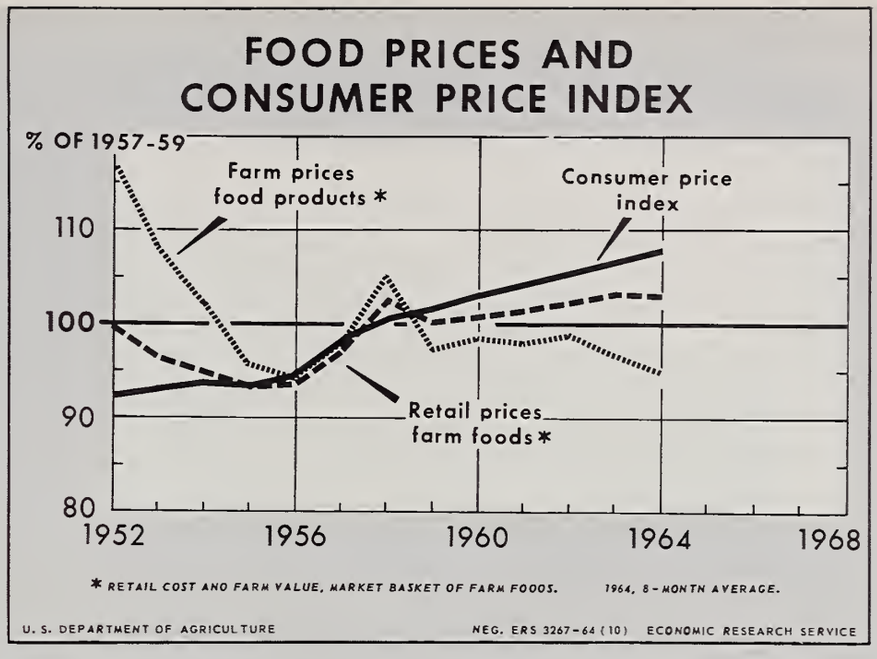
Food Trends As Usual: The postwar trends in food consumption continued through 1964 but certain changes are anticipated in the coming year. Meat consumption may stabilize but use of fruits, particularly citrus, is expected to climb from current low levels.

The upswing in use of animal products this year is due largely to strong gains in per capita consumption of beef, veal and poultry.

Per capita use of pork, lamb and mutton and animal fats in 1964 is declining slightly from last year. The same is true for potatoes, sweetpotatoes and other vegetables.

Food Slows Rise in Consumer Prices: Prices for farm foods have helped to blunt the gain in the Consumer Price Index since 1957-59. The cost of farm-originated foods at retail has been about 3 per cent higher in 1964 compared to the 1957-59 average. During the same period, the CPI rose 8 per cent.

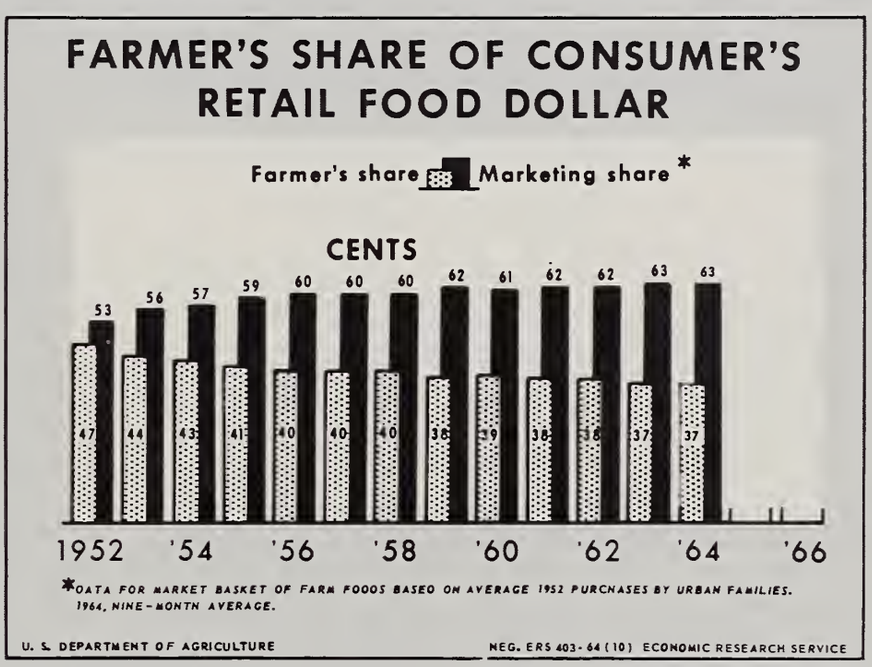
Retail food prices have been sluggish despite the general rise in consumer prices over the past few years, largely because farmers have received less for their products. The charges for marketing farm foods went up at about the same rate as the CPI.



Farmer's Share at 1963 Level: Farmers received an average of 37 cents from each dollar consumers spent at retail for farm food this year, the same as the 1963 share.

In only one year out of the last 12 has the farmer's share gone up from the preceding year. In the remaining 11 years, it has either declined from the previous year's level or stayed the same.

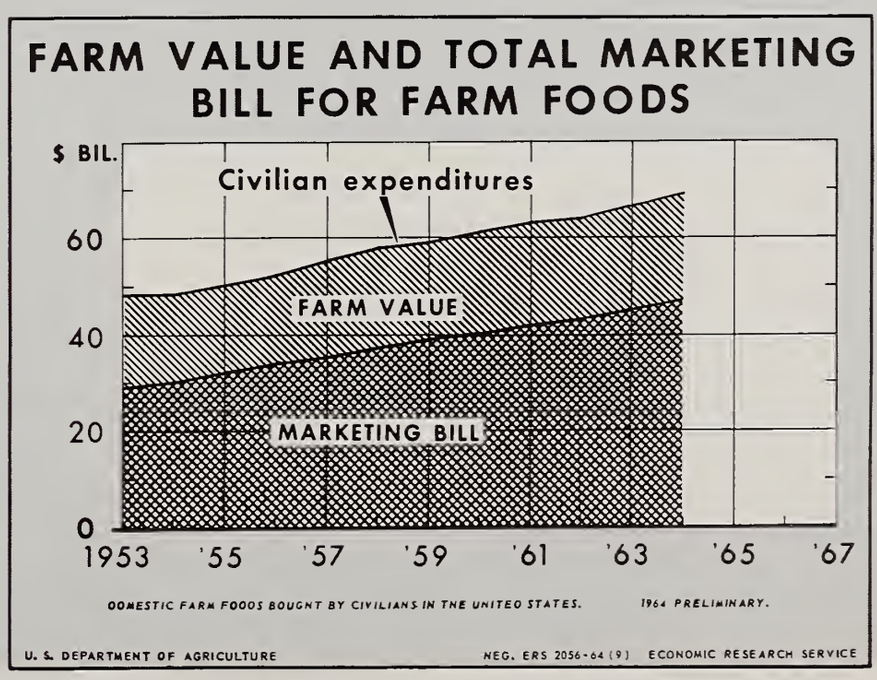
The rise in marketing charges (as well as declining farm prices) is responsible for the decline in the farmer's share. These charges have gone up mainly because of higher wages and the rising costs of goods and services used by marketing firms.

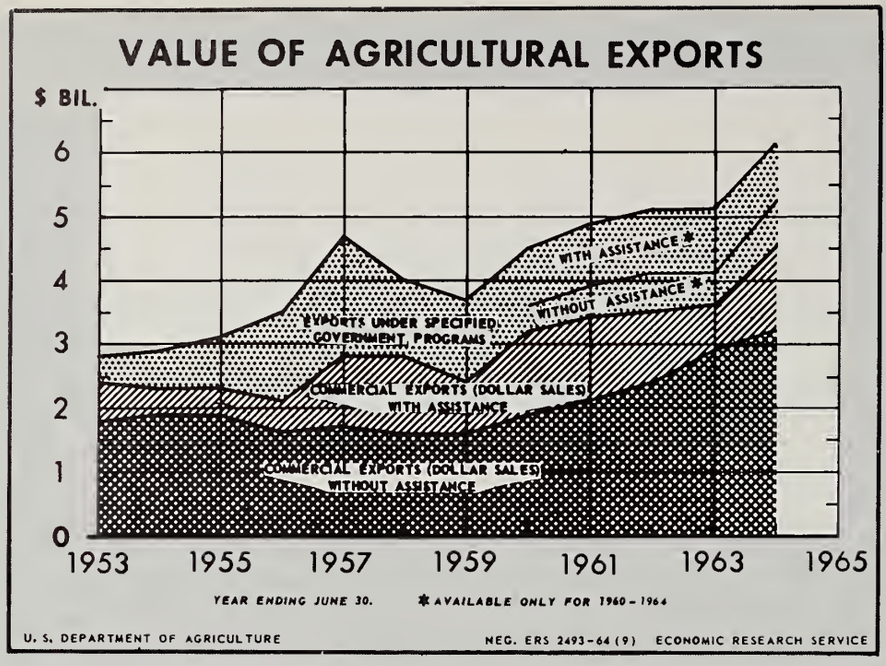


Bill for Marketing Goes Up Again: The cost of marketing farm foods to civilians is expected to total about $47 billion by the end of the year. The 1964 total will be 4 per cent above the bill for 1963. The increase is about the same as the average rise during the past decade.

Both the volume of food handled and marketing charges per unit increased from 1963 to 1964. Consumers will spend $69 billion for farm foods in 1964, about $3 billion more than a year earlier.

The gain in the 1965 marketing bill is likely to be about as large as that estimated for this year.

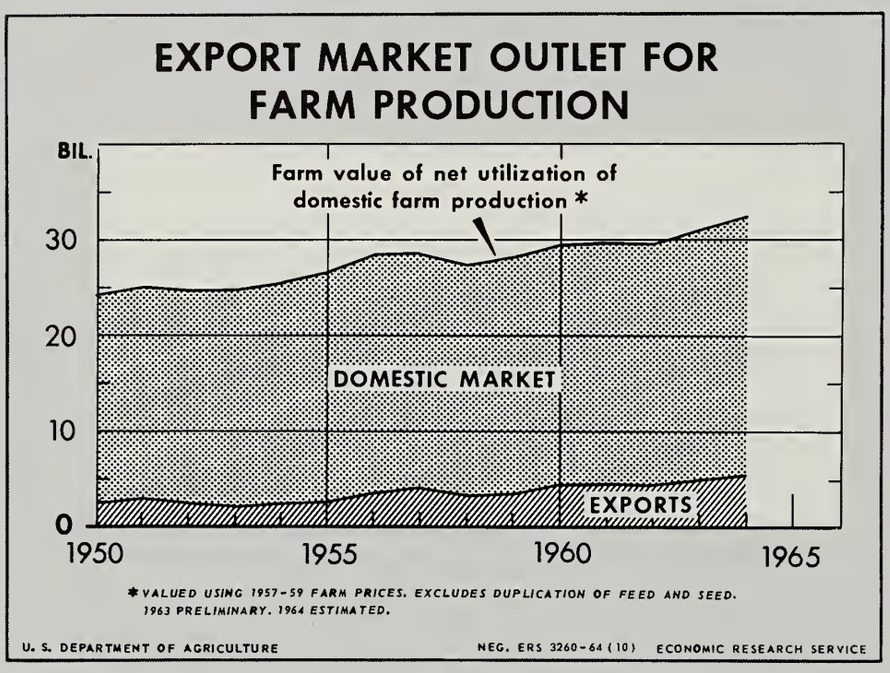




Export Prospects Down a Little: U.S. agricultural exports in fiscal 1965 are on the way to another outstanding year in dollar value, and may be only slightly less than the $6.1 billion record of 1963-64.

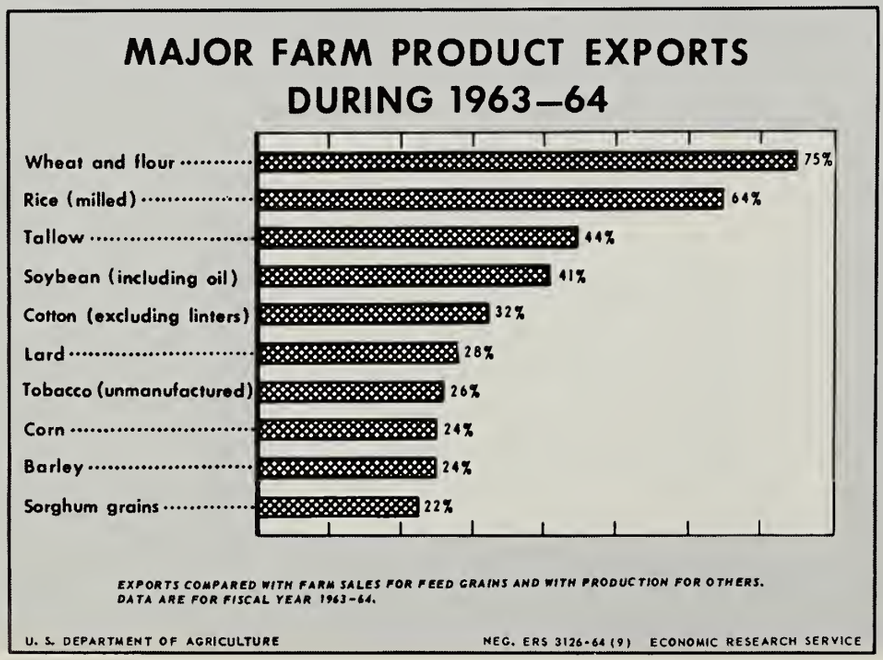
Commercial sales may total over 70 per cent of the value of all farm exports. Government-financed shipments are expected to about equal the $1.6 billion of fiscal 1964.

A sharp decline in wheat exports this fiscal year, due to average or better crops in buyer countries, will be largely offset by larger exports for soybean oil, feed grains and some animal products.



Farm Products Popular Abroad: During the past decade, foreign demand for U.S. farm products has increased more rapidly than domestic demand. Farm exports more than doubled between 1954 and 1964, in terms of constant prices.

Thanks to the large gain in exports during fiscal 1963-64, calendar 1963 and 1964 both went up sharply. Foreign buyers took about a sixth of U.S. production in 1964, compared with less than a tenth in 1954. Domestic utilization of farm products during the past 10 years gained only slightly faster than population.



Farm Exports Shift Gears: During fiscal 1964, the share of lard output exported went up 56 per cent from a year earlier while cotton exports rose 33 per cent; wheat and flour, 29 per cent; tallow, 26 per cent; and rice, 23 per cent. Shipments by share of production were up 13 per cent for both tobacco and barley.

Soybean shipments by per cent of output were down 7 per cent in 1963-64 from the preceding year. Corn exports as a per cent of farm sales were about equal to the level in the previous export year and grain sorghums were down 26 per cent.

South Dakota Farmers Intend to Retire But Few Have Made Definite Plans

Retirement is something relatively new to most farmers. In years past, a farm operator generally continued to work as hard as he could for as long as he could. Although he probably wasn't able to do as much in later years as he did when he was younger, he rarely considered himself "retired."

Nowadays retirement is so much a part of American life that even farmers take it for granted. However, they may not anticipate the same changes in their lives that factory workers or employees of a business firm would consider.

When 575 farmers in South Dakota were asked to describe what retirement would mean for them, most anticipated a move to a different home, preferably one in the rural area or a small town near their farm. Sixty-five per cent thought retirement would result in considerable reduction in their physical labor; 21 per cent thought labor would be completely eliminated. At the same time 38 per cent expected to reduce their management role on the farm substantially and 43 per cent felt it would be cut out entirely.

The average age of the farmers interviewed in South Dakota was around 48. Eighty-five per cent of them said they expected to retire but less than a third had made definite plans. The average preferred age for retirement was 62.

Farmers were more inclined to look forward to retirement if they had above average education, conceived their health as good, indicated adequate retirement income and participated in nonfarm organizations.

The farmers who expected retirement to eliminate labor and who planned to change their residence had the most favorable attitudes toward retirement. Age influenced attitudes, too—the younger farmers had more favorable opinions of retirement than did the older men.

Farm operators in the study had completed an average of close to 10 years in school. Nearly one-half had attended high school and one-third had graduated. Almost 8 per cent had been to college.

When asked how things were in general and how the future looked, 93 per cent of the farmers interviewed replied that their affairs had worked out fairly well or very well and the future looked bright.

Three-fourths of the farmers interviewed thought their present state of health was either good or excellent. More than half were carrying some form of health insurance. (This compares with 45 per cent of the national farm population with hospitalization coverage.)

The farmers expected that Social Security benefits and income from the farm would be their most important sources of retirement income. Three out of 10 also mentioned income from insurance. Those who expected their incomes to be adequate were much more likely to have definite plans to retire than were those who expected incomes too low to live comfortably.

Seven out of 10 of the South Dakota farmers reported membership in nonfarm organizations such as lodges, parent-teacher groups, veterans organizations and community clubs. These men thought more favorably of retirement than did farmers who belonged only to farm groups, probably because they had more diversified interests.

Net worth and ownership of land were also related to attitudes toward retirement. Three in 10 landowners had made definite plans; only 2 in 10 nonowners. Nearly a third of those with net worth of $42,000 or over had specific plans; only two-fifths of those with less than $20,000. *(18)*

Farm Families Need Variety of Advice Before Starting Recreation Business

When a farm family is considering the addition of a recreation enterprise to their farm business, they should consult every available source of information before they take the final step. Some good sources include:

—Other families in the community who already are operating enterprises similar to the one planned. Families who have failed or who have had less than glowing success with farm recreation businesses often can illustrate the pitfalls.

—Local representatives of insurance companies can provide information on the additional fire, theft and liability coverage that will be needed.

—Public officials should be asked about necessary licenses and permits, local or state taxes to be paid, health standards to be met and other local and state regulations with which the recreation business will have to comply.

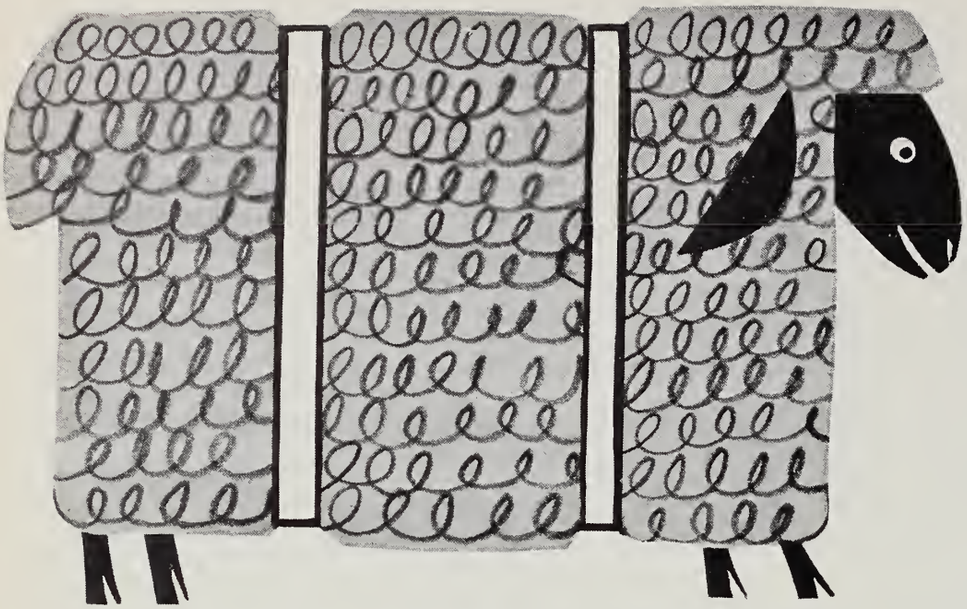
—County supervisors of the Farmers Home Administration have information about financing recreation enterprises on family farms.

—County extension agents offer publications and other education assistance on starting and managing a farm recreation business. They also can direct the farmer to other government agencies such as the Soil Conservation and Forest Services that offer help with such enterprises. *(19)*

Community Goals

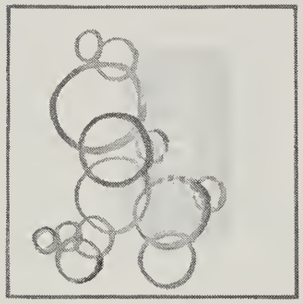
New jobs, adult education, playgrounds, child-care centers —community goals become reality through community action.

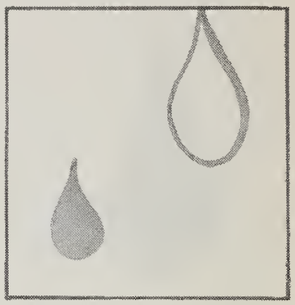
Such projects are given special attention in the War on Poverty legislation. It provides up to 90 per cent of the money during the first two years and 50 per cent thereafter. *(20)*



WOOL MOVING EAST?

It's cheaper to ship wool baled and scoured but other factors retard Western scouring industry.





Almost the entire continent separates wool on the hoof from the looms that turn it into cloth.

Most of our domestic wool comes from sheep ranches in the 11 western states plus Texas; most of our mills are concentrated on the east coast, primarily in New England and the Southeast.

Getting western wool to eastern mills is at best a costly business. This is especially true when 60 to 70 per cent of the weight transported is trash riding piggyback in the unscoured wool. Also adding to the transportation cost are the bulky bags in which much of the wool clip is shipped; bags don't fit compactly in boxcars and truck trailers or stack well in warehouses.

Seemingly obvious ways to reduce transportation costs pop up like tops. Move the woolen mills west. Clean the wool before it's shipped. Develop more compact shipping containers.

Moving the mills closer to western sources of supply isn't too likely because of limited water resources, distance from eastern sources of nonwool fibers needed for blending and, of course, the problem of shipping the finished material back to eastern garment makers. Also, wool manufacturers apparently like to stay close to eastern ports of entry, since they have to buy a great deal of imported wool to supplement domestic supplies.

However, a new ERS study takes a close look at the other two possibilities for cutting transportation costs — better containers, scoured wool.

For better shipping, the study recommends baling. One method is to remove the fleeces from bags and bale them like cotton. Another method, developed by a Texas trucking firm a decade ago, is to bale together three to six bags of fleeces.

What baling has done is make wool traffic, long a railroad monopoly, truly competitive traffic. Whereas trucks can't economically haul the bulky single bags, bales stack well and add up to a weight load trucks can haul economically. What's more, wool moves by truck as an agricultural commodity exempt from ICC economic regulations. This gives truckers a little more leeway than railroads in setting rates.

Why, then, isn't all raw wool shipped in bales?

One reason is that western shippers, usually warehousemen, don't always know what costs are involved in buying and operating balers. The study shows that many small warehouses such as those in Texas are probably better off using the baling facilities of trucking firms. But most warehouses in the 11 western states, handling larger volumes of raw wool, would do better to buy their own balers. Savings in the cost of transportation, storage, sampling and the like would more than offset the cost of equipment and labor.

As for building more scouring plants in the West to clean the wool and thus reduce its weight before it starts the long haul east, the ERS study shows success would be questionable at best.

Economists analyzed transportation rates for wool by rail and truck, from nine western cities to three eastern receiving centers. The nine cities were chosen only as examples of possible scouring plant sites. The data indicated that the cost of moving the western wool clip to eastern mill centers may be cut substantially if the wool is scoured locally before shipping.

Regardless of the transportation advantage, new scouring plants in western wool producing areas might well find themselves in business—but with no business to be had.

The real problem is the multitude of different characteristics manufacturers require in wool to produce everything from men's fine worsted suiting to baby blankets.

These characteristics are hard

to detect after the wool is scoured, particularly the good combing qualities so essential in making worsteds. And worsteds are a primary market for western wools.

Thus, in practice, woolen and worsted manufacturers prefer to buy unscoured wool and have it classified and cleaned according to their individual specification.

The relatively few scouring plants now operating in the West work mostly for small local mills, scouring the wool according to the specification of each mill.

A western scourer, buying the wool clip from ranchers and cleaning it in hope of resale, would be hard pressed to market much of the finished wool to advantage.

Best bet, the report concludes, for prospective scouring plants located near western sources of supply is to work on a commission basis for the established mills, most of which are in the East. Yet even this business appears limited. Most mills have long since established satisfactory patterns of doing business with eastern scourers and aren't in a hurry to change. *(21)*

New as Irradiation, Old as Sundrying, Processed Foods Continue to Evolve

Newer, newest—these are the words for the ever-changing parts of the marketing system. Here are some of the latest variations on the old business of turning farm products into food and clothing.

Canning. Canned foods, around since the day Napoleon needed a way to sustain his troops, are now produced by a number of new systems which are replacing the old method of sterilizing food and container together. Aseptic and hydrostatic canning, for example, make it possible to sterilize product and can separately, resulting in better quality and sometimes lower costs.

Freezing. Freezing, like any half grown youngster, changes practically overnight. One of the more recent innovations is quick, "quick" freezing, which drops the product temperature to minus 300 degrees. Costs are high as yet but the process makes it possible to freeze such items as sliced tomatoes.

Drying. Drying, almost as old as agriculture itself, is also subject to change. Fluidized beds and foam-spray drying are a couple of the more recent techniques.

Radiation. A twentieth century process, radiation for food is just barely beyond the experimental stage. It appears, however, to have commercial possibilities. Recently several foods have been approved for sale to the public.

Continuous conveyors. Water flumes for potatoes and some fruits, high speed pneumatic tubes for grains and vegetables, augers to lift grain to elevators, and pipelines for sugar, milk or fruit juices are a few of the newer ways to keep food supplies on the move.

Bulk containers. With oversize pallet boxes and special fork trucks to carry them, numerous little units are now loaded, hauled or dumped in one big move. At grain elevators, for example, an entire railroad car becomes the container when a kingsize machine tilts the whole thing and dumps the contents.

Vending machines. Already a fixture in the business of marketing foods, the vending machines are constantly dispensing newer and more elaborate foods. For a coin and the push of a button, the machines now provide everything from hot and cold drinks to soups, stews, baked beans and even hot prepared meals.

Kitchen equipment. Not the least important part of the marketing system is the equipment used by the American housewife. One example: freezing compartments in the refrigerator are as essential to the frozen food industry as they are to the family dinner menu. (*22*)

OUTLOOK FOR MARKETING

Unit Marketing Charges Edging Up To Raise Retail Food Costs Slightly

Unit marketing charges are expected to edge up again next year, but not more than 1 or 2 per cent over 1964. As a result, retail prices of farm foods may average slightly higher.

Small but steady increases seem likely next year as in years past in the cost of goods and services purchased by food marketing firms and in hourly earnings of food industry workers. These costs incurred by marketing firms will account for the expected increase in unit charges in 1965.

Consumers have spent $69 billion for farm foods in 1964, some $3 billion more than in 1963.

Of the $69 billion spent, some $47 billion is the marketing bill—the cost of transporting, processing, packaging and distributing food products from the farm gate to the family table.

The $47 billion marketing bill this year is 4 per cent above 1963. This increase is about equal to the average annual rise during the last 10 years.

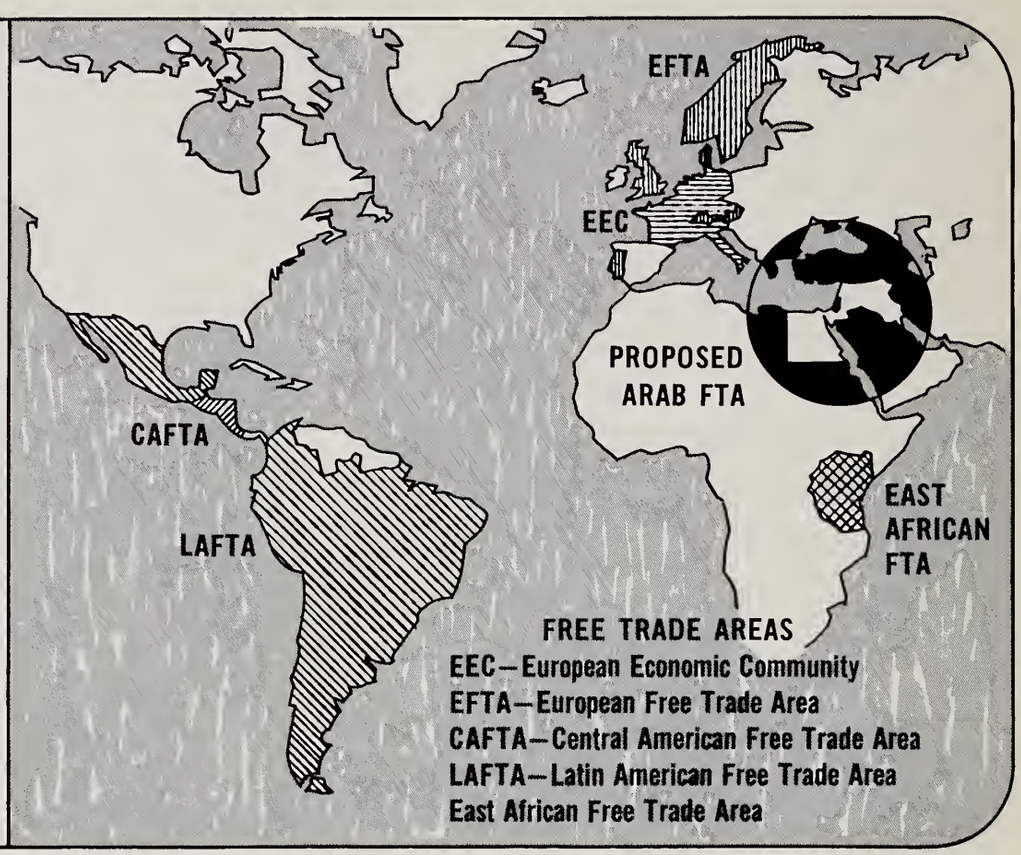
Hourly earnings of workers are up again this year, but higher productivity per worker will no doubt offset much of the extra cost. From 1953 to 1963 average hourly earnings of these workers climbed 48 per cent. However, higher output per worker held the rise in unit labor costs to 12 per cent.

Both the farm value and the retail cost of foods in the market basket are running about the same this year as last. Farmers this year will get about 37 cents of each dollar consumers spend for food at retail, the same share as 1963, but 3 cents less than the 1957-59 average.

The 1965 prospect is for a slight drop in the farm value of the market basket, due to lower prices for potatoes, eggs, turkeys and a few other products. *(23)*

the idea spreads:

Now an Arab Common Market



Common markets are getting commoner every year.

Five Arab nations are now setting up their own economic union, effective the first of the year. The five, clustered at the eastern end of the Mediterranean, are the United Arab Republic (Egypt), Jordan and Syria, largely agricultural, plus oil-rich Iraq and Kuwait.

The Arab Five have undoubtedly taken note of the success of the EEC Six. Intra-EEC trade has doubled, from $7,030 million in 1957, the year before the market was set up, to $15,491 million in 1963.

Younger and less closely organized than the EEC, the two trade groups in our own hemisphere have seen business move ahead, too. Founded in 1961, the Central American Free Trade Area (CAFTA) doubled trade among members, from $32.7 million in 1960 to $67.6 million in 1963.

Nearly the same thing has happened, on a larger scale, in the Latin American Free Trade Area (LAFTA) founded in 1960. In 1961 trade among members came to $360 million. By 1963 intra-LAFTA business was up to $525 million.

Other going concerns are the European Free Trade Area and the East African Free Trade Area. The first group includes most of Western Europe outside the EEC. The second is comprised of Kenya, Uganda and Tanganyika-Zanzibar.

The new Arab Common Market provides for a lowering of trade barriers by each member to the products of the other members. There will be free exchange of currency and skilled labor. And transportation facilities will be cooperatively shared.

The Five have much to offer one another. Egypt, Jordan and Kuwait, which exist on a marginal level of farm production, must depend heavily on food imports. Conversely, Iraq and Syria in most years produce a surplus of major food items. With a combined population of some 30 million, Egypt, Jordan and Kuwait could adsorb the surplus grain, livestock and livestock products of both Syria and Iraq. In exchange, Syria, for instance, might well take more Egyptian rice and some citrus.

As the most industrialized of the Five, Egypt could also process Syrian hides and skins into leather goods for export to Western Europe and other world markets.

Free movement of people would do much to even out the peaks and valleys in the skilled labor market. Egypt is said to have more skilled technical personnel, both in agriculture and related industries, than it can place. Syria and Iraq are short of skilled manpower.

The new union will have little effect on U.S. farm exports to the area in the near future. Most of our shipments, chiefly wheat, aren't dollar sales but government-sponsored exports. Only if the union spurs members to up farm output significantly could U.S. markets be affected. By the very magnitude of the task, this is a long-term proposition.

What does seem likely is that, if the Five succeed, the economic union will expand to include much of the Arab world. (*24*)

Genesis of New Economy Seen if Turks Can Update Farms, Irrigate Arid Land

When the Flood subsided, Noah and the Ark, according to Genesis, came to rest on Mt. Ararat. Today the mountain towers not over a fertile floodplain but over the vast drought-ridden plateau of Anatolia which, except for a narrow coastal belt, comprises the Republic of Turkey.

While most of the country is ill-suited to farming, agriculture nevertheless supports most of the people and provides 85 per cent by value of all exports. Half the population, some 15 million, lives in small villages on the Anatolian plateau, trying to wrest a living from farms of 12 to 25 acres—farms too small and too fragmented to be economically mechanized. In 1961 only 8 million acres of 49 million cultivated throughout Turkey were machine-tilled.

Important as water is in this semi-arid country, only 5 million acres are under some form of irrigation, much of it primitive.

U.S. aid in recent years has been used to finance expanded irrigation systems, including construction of large storage dams, and exploitation of underground water supplies. But the average farmer hasn't acquired the technical skills or he is reluctant to break with tradition and follow official advice in planting and irrigating new or better varieties of crops.

Water isn't the only problem. The soil has lost much of its fertility through centuries of farming by traditional methods; most farmers can't afford chemical fertilizer or even manure, which is saved for fuel. Moreover, pasture lands are badly overgrazed. Disease and pest control and use of selected seed are very limited.

Despite the obvious drawbacks, Turkey must now raise yields on its farms fast enough to keep up with a population increasing by nearly 1 million yearly.

Any hope of relying on new acreage to increase food production has vanished. In the last 20 years or so the nation has actually doubled farm acreage. But much of this is marginal land and yields haven't gone up in proportion to the new land planted. Nowadays there's talk of actually retiring some less productive acreage.

On the plus side, Turkey can point to a modernization program which, though still small, is well launched. Today some 75 per cent of all wheat is combined. There are growing numbers of tractors and such grain handling machinery as drills and seed cleaning fans. Also, Turkey has a reasonably good road system.

The U.S. since 1954 has supplied the greater part of Turkey's farm imports, mostly under P.L. 480 assistance. Cash dollar sales have been relatively low and there's little promise for much increase in cash markets in the next few years. *(25)*

Tanganyika-Zanzibar Union Gives Both Stronger Base to Develop Economy

On April 27, 1964, Tanganyika and its tiny neighbor, the island of Zanzibar, merged in a united republic. The purpose of the merger was to broaden the economic base of the two countries and to quarantine the area against a spread of Peking-controlled communism.

Two weeks later, President Julius Nyere announced a $688.8 million five year development plan, the first of three plans scheduled.

If the new nation can maintain its political integrity, while solving some of its more pressing agricultural problems, it stands a chance of taking a leading place in the economic life of eastern Africa.

Sisal, cotton and coffee dominate the country's trade and economy, accounting for over 60 per cent of the value of all exports in 1963. Tanganyika is, in fact, the world's leading producer of sisal which alone is worth over one-fourth the value of the nation's total exports.

The United Kingdom is the country's major customer, purchasing a third of the exports in 1963. West Germany and the United States, each taking about 8 per cent of Tanganyika's exports, are the second and third most important markets. The United States, however, is the biggest buyer of the nation's coffee, using about $6 million worth of Tanganyikan coffee a year.

With 9.8 million persons and a population growth of 1.8 per cent a year, Tanganyika's output has recently been growing at an annual rate of about 5 per cent. It is anticipated that the growth rate will accelerate to 6.5 per cent by 1970.

The government in Dar es Salaam hopes to improve agricultural and general economic development in a variety of ways:

—An attack on illiteracy. While few Tanganyikans as yet get beyond the fourth grade, the number of children receiving some education is rising. In 1947, about 124,000 attended school; by 1960 the figure was 450,000.

—More agricultural research and training.

—Greater control of plant diseases and pests. The Produce Inspection Service enforces rigid inspection of incoming grain shipments and storage facilities to prevent infestations of the Khapra beetle. Tanganyika and Kenya have been cooperating for years in a campaign against the Sudan Dioch, a voracious grain eating bird that inflicts severe damage on crops.

—Increased irrigation and flood control. The creation of tribal farms, such as plantings at Mbarali in the southern highlands, is expected to help solve some of the problems involved in the future, large-scale irrigation and reclamation projects. *(26)*

Nigeria Celebrates Its Fourth Birthday With Bustling Economy, Some Problems

Just four years ago the Union Jack came down in Ibadan. Nigeria was independent.

From the British the new nation inherited a good administrative system, comparable to that left in the Sudan, good schools and a going program of agricultural research and extension.

From their own tribal past, the Nigerians inherited a firm belief in the value of trade. A thousand years ago camel caravans carried rare red Nigerian goat skins 1,100 miles north across the Sahara to provide Morocco with leather for the bookbindings that became world famous.

Today Nigeria relies on trade for much of its national income. Aside from petroleum, a recent discovery, plus tin and tropical woods, trade means farm products.

Here Nigeria is more fortunate than many of its neighbors. With the climate and terrain ranging from coastal rain forest to dry plains, Nigeria grows a number of crops in active demand in world markets. It's the world's largest exporter of peanuts and palm kernals, the second largest shipper of cocoa beans and palm oil. It's Affica's No. 1 producer of rubber. All told, farm exports account for 75 to 85 per cent of Nigeria's exports in any given year.

At home, electric power and transportation are not yet sufficiently developed. However, a new 400-mile railway line, to be finished next year, is pushing through the largely isolated northeast region to within a few miles of the Chad border. And the Kainji dam, financed chiefly through the World Bank, will improve the Niger River as an artery for barge traffic much like the Mississippi. It will also provide for irrigation and hydroelectric power.

Light industry is rapidly developing, too. Nigeria at independence had only one cotton mill; today there are several in operation or abuilding.

While Nigeria's economy is better off than most in Africa, it's not without problems, foremost being too many people. No bigger in area than many of the continent's 34 other independent nations, Nigeria nevertheless has a full 20 per cent of the continent's total population. And this population is growing at a rapid rate, between 2 and 3 per cent a year. Despite a substantial increase in national income since prewar, the swelling population holds per capita income at just $85 a year.

Although Nigeria started off with a nucleus of trained technicians and management personnel, it needs many more. Until recently relatively few bright youngsters majored in agriculture at high school and college. There was strong national sentiment that agriculture lacked status.

Independent Nigeria has added three universities to the one (Ibadan) operated under the British administration. Each has a college of agriculture with a growing enrollment.

Nigeria's agricultural research is far ahead of farm application. When farmers try new methods, results can be spectacular. For example, this year's cocoa crop, estimated at some 220,000 metric tons, is nearly double the 1955-60 average, largely because producers have accepted chemical spraying as a way to control cocoa disease and insects.

By and large, however, farmers are slow to see the advantage in new ways. One of Nigeria's pressing needs is a vastly expanded extension service.

Recognizing Nigeria's economic potential, both the governments of the United States and Britain, as well as private foundations, are providing assistance to the fledgling republic. After Egypt, Nigeria is the largest recipient in Africa of U.S. foreign aid. (*27*)

Nigeria Will Be Strong Dollar Market For U.S. Wheat, Dry Milk by 1975

Projections to 1975 show a mixed future for U.S. exports of farm products to Nigeria. Outlook for wheat is excellent; for milk and tobacco, good. For meat products, practically nil.

These and other projections of U.S.-Nigerian trade a decade hence appear in a summary of a study made under ERS contract by the University of Edinburgh.

Wheat. The U.S. can expect shipments to the West African republic to double, from 2.2 million bushels in 1965 to 4.2 million in 1975. In both years the U.S. is projected to supply two-thirds of Nigeria's total wheat imports.

Back of this yeasty demand outlook is a growing interest among Nigerians in bakery products, a new experience for many. A large flour mill was opened near Lagos in 1962. Another is planned for Port Harcourt.

The government is trying to promote wheat production in order to curtail imports. But it's doubtful if good milling quality wheat can be adapted to Nigeria's soil and climatic conditions without a major research breakthrough.

Tobacco. Although Nigeria will have more people to buy cigarettes and other tobacco products, imports of unmanufactured tobacco in 1965 and 1975 will remain close to the 1960 level, and well below the 6.1 million pound average of the 1950s. But the U.S. is expected to retain some 67 per cent of the market, quantity basis, and 80 per cent of the market on a value basis.

Reduced imports are due in part to Nigeria's own stepped-up production of tobacco. Then too, the 1960 tax hike on cigarette brands containing flue-cured tobacco has led manufacturers to lower the flue-cured content, which in turn has cut back imports of U.S. flue-cured tobacco.

Dairy Products. Nigeria won't come close to producing all the milk it needs by 1975. The Netherlands, which commanded 95 per cent of the condensed milk market in 1962, will continue to furnish most of the condensed milk.

But the fastest growing market is for dry milk. More conscious each year of the importance of milk in their otherwise high-starch, low-protein diet, Nigerians have increased dry milk imports thirty-fold since 1949.

So far U.S. commercial exports of dry milk have been zero. But prospects are good for the next decade or so if preceded by a carefully presented promotion effort. Assuming such advance planning, the study projects U.S. dry milk sales by 1975 at close to 6.9 million pounds.

Meat. U.S. exporters can expect no real market for meat products in Nigeria in the foreseeable future. The study therefore makes no projection. Less than 50,000 people, mostly Europeans and some high income Nigerians, can afford imported meats.

Nigerian importers have indicated that U.S. meat products aren't competitively priced. Most imports come from the United Kingdom and other European sources. (*28*)

EXPORT OUTLOOK TO 1970

Overseas Markets Half Again as Big As 1960's Seen for U.S. Food Exports

What's the long-term outlook for U.S. markets abroad?

By 1970 U.S. exports of food should be 50 per cent above the 1959-61 average. Wheat shipments will climb 27 per cent; coarse grains, 56 per cent; rice, 67 per cent; vegetable oils and oil seeds, a whopping 90 per cent.

Along with lard and tallow, the above commodities will still account for 80 per cent of our total food exports just as they did in 1959-61.

The other frontrunner by 1970

TRADE WIND $1.5 BILLION BETTER BY 1970

The next five years will see Northern Europe become a $1 billion plus market for U.S. foods, all dollar sales. This doesn't count such nonfood products as cotton and tobacco. Japan will remain our biggest single country cash market, upping its purchases by some 135 per cent for a total of nearly $500 million in 1970. Value of exports to Southern Africa, West and Central Africa and South Asia will double or better. The world as a whole will take $1.5 billion more in U.S. foods than it did in 1959-61.

Country or subregion	U.S. food exports[1]			Share of market	
	1959-61 average	1970	Change 1959-61 to 1970	1959-61 average	1970
	Million dollars		Per cent	Per cent	
Canada[2]	367.2	476.2	+ 29.7	11.5	9.9
Mexico	37.3	37.3	0	1.2	.8
Central America and Caribbean	144.6	90.1	— 37.7	4.5	1.9
River Plate[3]	8.8	2.2	— 75.0	.3	—
Other South America	201.7	328.1	+ 62.7	6.3	6.8
Northern Europe	912.1	1,287.7	+ 41.2	28.5	26.9
Southern Europe	243.0	292.0	— 20.2	7.6	6.1
Soviet Union	5.2	—	—	.2	—
Other Eastern Europe	142.6	147.4	+ 3.4	4.4	3.1
North Africa	184.3	316.5	+ 71.7	5.8	6.6
West and Central Africa	30.8	60.8	+ 97.4	1.0	1.3
East Africa	4.8	7.8	+ 62.5	.1	.2
Southern Africa	9.4	23.1	+145.7	.3	.5
West Asia	179.3	275.8	+ 53.8	5.6	5.7
South Asia	333.6	668.3	+100.3	10.4	14.0
Japan	209.6	491.6	+134.5	6.5	10.3
Other East Asia	181.4	276.8	+ 52.6	5.7	5.8
Communist Asia	—	—	—	—	—
Oceania[4]	3.9	4.4	+ 12.8	.1	.1
WORLD TOTAL	3,199.6	4,786.1	+ 49.6	100.0	100.0

[1] Computed value based on weighted average price per ton, 1959-61.
[2] Includes transshipments.
[3] Argentina and Uruguay.
[4] Australia and New Zealand.

will be nonfat dry milk, expected to double its 1959-61 shipments.

Exports of meat, excluding poultry, are expected to climb by 93 per cent. Poultry and fruits should go up nearly one-half.

These projections are made in a new ERS study, by region and country, of the world supply of and demand for food by 1970.

Because the study deals with food production and needs, projections were not made for U.S. exports of nonfood items—cotton, tobacco and the like.

What will be our major export markets by 1970?

Japan will be our best single-country market through 1970. Northern Europe will remain our best regional customer, buying 41 per cent more U.S. products than in 1959-61. Yet its share of U.S. exports, at 27 per cent, will actually be down 1 per cent from the base period.

South Asia, including India, will double imports of U.S. foods by 1970. The subregion will up its share of our world market to 14 per cent, from 10 per cent in 1959-61. Much of the increase will be due to stepped-up foreign aid shipments, especially wheat.

Several subregions are expected to take less from the U.S. by 1970 than they did in 1959-61. But only one—Central America and the Caribbean—was a significant market for U.S. food exports to start with. The decline in this market is due to the loss of the Cuban trade. *(29)*

EXPORT OUTLOOK FOR 1965

Another Outstanding Year In Prospect For U.S. Sales of Farm Commodities

Fiscal 1965 will be another outstanding year for U.S. farm product exports. In fact, the coming year likely will be the best ever, except for the phenomenal $6.1 billion of 1964. *(See chart on p. 20 in Outlook Supplement.)*

Wheat shipments will be around 675 million bushels, a more normal level than 1964's record 860 million.

There'll be declines too in exports of tobacco, rice, tallow, lard, butter, cheese, wool, barley, rye and oats. But these declines will be pretty much counterbalanced by larger shipments of corn, grain sorghums, edible vegetable oils, protein meal, soybeans, nonfat dry milk, poultry meat, and hides and skins.

Supplying fast growing livestock industries in Western Europe and Japan, U.S. feed grain exports will likely climb to 16.4 million metric tons, toppling the previous record set last year at 16.1 million.

Exports of variety meats, as well as hides and skins, are expected to be the highest ever this year. Dairy products will be up about 10 per cent by value over last year.

U.S. frozen poultry will be bought by about 85 countries. Taking more frozen poultry this year than last will be Western Europe, Canada, Hong Kong, Japan, Peru and the Caribbean islands. *(30)*

Foreign Spotlight

COMMUNIST CHINA. Peiping is still shopping world markets for food grains to make up deficits in its own production. A new contract with Argentina calls for a million metric tons of wheat for delivery in 1964 through 1966. Negotiations are underway with France, which has a large export surplus this year, and with Australia. Canada's 1963 agreement to supply wheat has two more years to run. In all, China has bought over 22 million tons of grain, worth $1.5 billion, since it first turned to free world suppliers in 1961.

INDIA. As food grain shortages grow daily, big producers and dealers are said to be hoarding supplies in expectation of higher prices. Despite larger grain imports, mostly from the U.S., shortages promise to be chronic. India's grain crop this year will likely be no better, no worse, than the last three. But today there are 30 million more people to feed than three years ago. It's population pressure rather than crop failure that keeps India on a treadmill.

FRANCE. One side effect of the Common Market's growing economic unity: French firms will make more marketing decisions with an eye not on France but on this broader market. Result? A partial international orientation of the French economy, which will affect the nation's approach to its own fifth postwar development plan. In short, the national plan will have to be more flexible to accomodate the uncertainties resulting from France's Common Market obligations. This view was expressed recently by the Fifth Plan director. The agricultural objectives of the Fourth Plan, expiring next year, have included raising farm income and living standards, increasing production and better marketing and distribution systems. *(31)*

Scientists Search Out Flavor Source To Enhance Taste of Processed Food

Explosion puffing, freeze drying, liquid nitrogen freezing—all these innovations in food processing are bringing us foods in forms seldom dreamed of a few years ago.

Rapid freezing with liquid nitrogen promises fresh frozen tomato slices. Thus far these and similiar foods have stymied the Jack Frosts of the food industry.

Before freeze drying was tried on strawberries and peaches, raisins were about the only fruit available mixed with dry cereals.

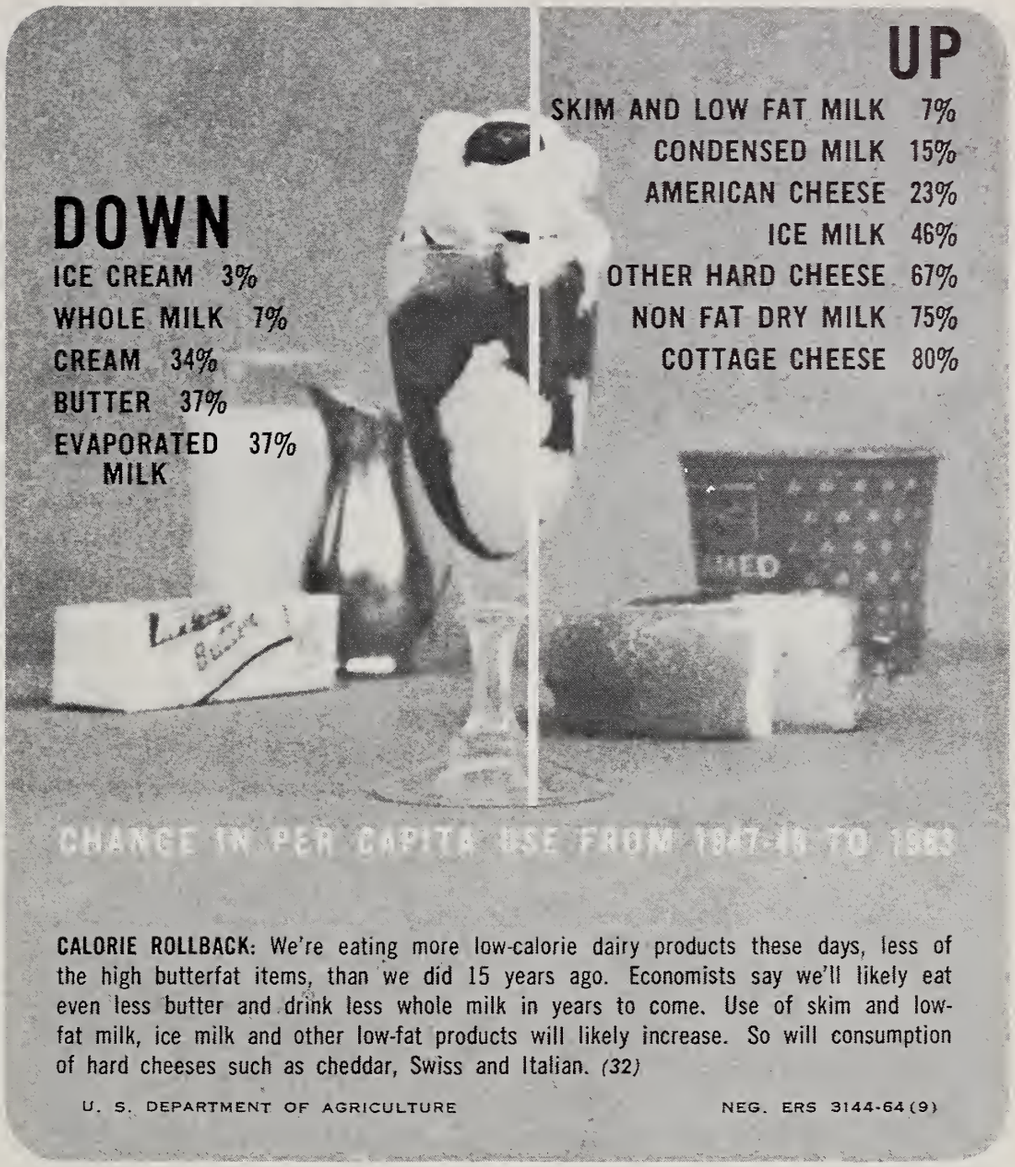
And the explosion puffing that yesterday gave us new forms of dry cereals is today adding apple slices and blueberries to instant mixes for pies, muffins and turnovers.

These are just a few of the new processes that are already having an impact on what and how well we eat. Recent discoveries from basic research will have an even more profound effect on food consumption in the future.

For instance, it is now possible to isolate and identify the complex chemicals that are the flavor components of foods. By a new technique of chemical analysis called **chromotography** the food industry can find the secrets of the natural flavor of almost any food. Synthesis of natural flavors will come next.

Processors will be able to enhance the flavor of a food or synthesize a new flavor and give it to entirely new food forms. Flavor uniformity can be maintained for raw materials grown, handled and marketed under a wide variety of conditions. A canned pea will taste just like a fresh pea right out of a home garden.

We've long used naturally occurring **enzymes** to make wine and beer, bake bread and tenderize meat. A new twist in tenderizing meat is to treat cattle with injections of certain enzymes just prior to slaughter. This improves good meat and makes lower quality cuts more palatable.



Enzymes act as bio-chemical catalysts, causing the production of the specific chemicals necessary in all living matter. In the space age, they may be used to produce protein materials by a mixture of bacteria with suitable nutrients in a closed system.

Fabricated **protein** products are near the commercial development stage in the laboratories of several major food manufacturers. Thus far, it's been possible to fabricate synthetic ham, chicken and turkey. The only thing missing is the fat, but dieters won't mind.

Another important advance in food processing is **radiation preservation.** We're already preserving bacon and grain with atomic energy. This method preserves without heat, so the consumer will have a food more nearly like a fresh product in terms of color, odor and flavor.

Radiation pasteurization, using a smaller dosage of radiation than for preservation, can extend the shelf life of fresh fruits and vegetables and other fresh foods. Fresh produce, meats and fish are more expensive now than need be because the price we pay has to make up for spoilage. So far, fish and shellfish products show the most promise for shelf-life extension with this treatment. *(33)*

MEAT PRICES—1954 VS. 1963: Retail meat prices haven't kept pace with the rise in our take-home pay. In fact, the average price per pound for ham, bacon and chicken has dropped. The first price is the average paid by consumers in 1954 and 1963 (Bureau of Labor Statistics figures). The second column shows what consumers would have paid in 1963 if the cost of meat had gone up 34.5 per cent along with incomes. And the last takes out the effects of inflation. The price reflects only the 18.8 per cent increase in purchasing power since 1954.

Meat	Year	Actual price per pound	Estimated price in 1963 if price had changed at same rate as—	
			Per capita take-home pay	Purchasing power of 1963 dollar
			Cents	
Chuck roast, blade-in	1954	51.4		
	1963	60.3	69.1	61.1
Rib-roast	1954	70.3		
	1963	83.7	94.6	83.5
Hamburger	1954	40.6		
	1963	51.3	54.6	48.2
Pork chops, center cut	1954	86.3		
	1963	88.2	116.1	102.5
Ham, whole	1954	70.0		
	1963	60.7	94.2	83.2
Bacon, sliced	1954	81.7		
	1963	68.3	109.9	97.1
Veal cutlets	1954	109.8		
	1963	151.5	147.7	130.4
Chicken, fryer-whole	1954	53.8		
	1963	40.1	72.4	63.9

MORE MEAT FOR LESS LETTUCE

"Sure my income has gone up, but food prices are so high I was better off before." This is a common lament, but the facts show it isn't true, even when it comes to meat prices.

Take the last decade, for example. The average U.S. consumer spent about $92 for meat in 1963, $15 more than in 1954.

However, this $92 in 1963 was a smaller share of the average personal disposable income—our take-home pay after taxes—than was the $77 in 1954. Furthermore, the average consumer got 10 pounds more meat in 1963 with this smaller share.

Of the $543 more the average consumer had available to spend in 1963 relative to 1954, only $46 went for food. Almost a third of this went for meat, mostly beef.

The shift to beef has been dramatic. The average consumer spent $1 less for pork in 1963 than in 1954 and almost $2 less for veal. He spent about 50 cents more for lamb. But he handed over almost $17 more for beef. In return he got 3 pounds more pork, about 5 pounds less veal, 0.3 pounds more lamb and 11 pounds more beef.

The picture is somewhat different when the effects of inflation are taken out. In terms of the purchasing power of the 1963 dollar, the average consumer had an actual increase in income of $321 in 1963 relative to 1954 instead of $543. By this measure, the consumer's total food expenditures stayed almost constant in the 1954-63 period instead of going up $46. Meat expenditures were increased about $4 ($7 less for pork and veal but $11 more for beef).

The disposable income of the average consumer has increased 34.5 per cent since 1954, while purchasing power has risen 18.8 per cent.

The table applies these changes to the price of meat.

The pork chop (center cut) price in 1963 was a little bit higher than in 1954, but it was much, much lower in terms of our purchasing power. Bacon and ham were not only less expensive in terms of the increase in our purchasing power, they were even cheaper in actual dollars and cents than they were in 1954.

The same thing was true of chicken. But, as was true for the other meats, the 40 cents a pound given in the table is an average for the whole country, including regular prices and sale prices as low as 27 cents a pound.

Chuck roast was a bargain in 1963 at 60.3 cents a pound on the average. The 1964 price is expected to average even lower. And many a wise shopper will be able to beat the averages. These are the shoppers who follow the ads in their newspapers and buy on sale weekends.

A study made in Greensboro, N. C., illustrates this point. Chuck roast was sale-priced by the supermarkets in one neighborhood on 20 weekends between July 1, 1962 and June 30, 1963. Housewives who bought five pounds of chuck roast on each of these sale weekends would have spent $39.30. If they had bought the same amount on the weekend after the sale, they would have spent $62.30. The average sale price per pound was 39 cents; regular price, 62 cents.

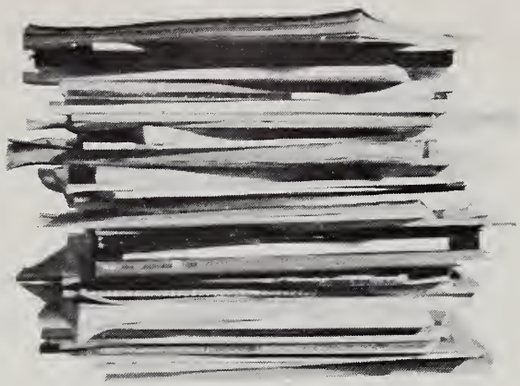
According to the table, veal cutlets and hamburger were more expensive, on the average, in 1963 than in 1954. In both cases, the 1963 price was influenced by the drop in total numbers of dairy animals. Milk production per cow has gone up while consumption of dairy products per person has dropped, so cow herds have been reduced by about a third. The calf crop for veal and the supply of cow beef for hamburger have correspondingly been reduced. *(34)*

FARMERS' HANDBOOK OF FINANCIAL CALCULATIONS AND PHYSICAL MEASUREMENTS. R. R. Botts, Farm Production Economics Division. Agr. Handbook 230 (Revised March 1964).

More and more figuring is required by modern farmers to determine the costs and returns of the farm business and such items as depreciation, Social Security, credit, life insurance, retirement and estate planning. This report attempts to make these calculations easier by presenting the solutions to questions most frequently asked of USDA.

THE ORGANIZATION OF WHOLESALE FRUIT AND VEGETABLE MARKETS IN CHICAGO, LINCOLN, LOS ANGELES, LOUISVILLE, MILWAUKEE, NEW ORLEANS, OKLAHOMA CITY, OMAHA, SAN FRANCISCO-OAKLAND, TULSA, AND WICHITA. A. C. Manchester, D. M. Lunquist and J. W. Dumas, Marketing Economics Division. ERS-163.

This report includes tables showing the buying, selling and operating practices of the wholesalers and chains, and changes that occurred in the past 20 years.



recent publications

The following publications are issued by the Economic Research Service and cooperatively by the state universities and colleges. Unless otherwise noted, reports listed here and under Sources *are published by ERS. Single copies are available free from the Division of Information, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications (descriptions below include name of experiment station or university after title) may be obtained from the issuing agencies of the respective states.*

LOCAL SECONDARY EFFECTS OF WATERSHED PROJECTS—A CASE STUDY OF ROGER MILLS COUNTY, OKLAHOMA. J. D. Jansma and W. B. Back, Resource Development Economics Division. ERS-178.

Economists studying the effects of the watershed project underway in Roger Mills County estimated that for each assumed $100,000 increase in gross receipts to farmers, there was an estimated net (disposable) income to farmers of $26,867. On the average, each $100,000 of gross receipts for farmers generated $77,845 in gross receipts to other sectors of the local economy and a net income of $16,457 to these sectors. (See July 1964 Farm Index.)

DISTRIBUTION PATTERNS OF RICE IN THE UNITED STATES. E. J. McGrath, Marketing Economics Division. ERS-186.

Although per capita consumption of many carbohydrate foods has declined in recent years, rice consumption has not only kept pace with population gains but has actually increased. (See August 1964 Farm Index.)

Numbers in parentheses at end of stories refer to sources listed below:

1. W. H. Metzler, The Farm Worker in a Changing Agriculture, Calif. Agr. Expt. Sta. Bul.(P); 2. P. Dorner and K. Hock, Adjustments on the Farm and Transition Out of Farming in Two Wisconsin Dairy Areas, 1950-60, ERS (M); 3. J. C. Baker (SM); 4. F. L. Garlock and P. T. Allen, Revised Estimates of Non-Real-Estate Farm Debt Owed to Nonreporting Creditors, and of Total Non-Real-Estate Farm Debt, 1949-64, ERS-191 (P); 5. F. L. Garlock and others, The Balance Sheet of Agriculture, Agr. Info. Bul. (M); 6. R. D. Krenz, Planning Production with Voluntary Diversion Programs, N. D. Agr. Expt. Sta. Bul. 449 (P); 7. Fruit Situation, TFS-153 (P); 8. H. G. Sitler, Economics of Farm Machinery on Colorado Wheat Farms, Colo. Agr. Expt. Sta. Bul. 521-S (P); 9. C. V. Moore, Guides to Selecting an Economical Surface Irrigation Distribution System (M); 10. B. H. Pubols, U. S. Fruit and Vegetable Trends and Prospects (S); 11. J. D. Cowhig, Rural Youth, Schools and Jobs (S); 12. E. J. Moore, The Low Income Problem in Agriculture (S); 13. A. R. Bird, Poverty in Rural Areas of the United States, AER (M); 14. E. L. Baum and J .H. Southern, National Programs, Progress and Research Needs in Area Economic Development (S); 15. D. Williams, L. A. Jones and F. Miller, Financing Rural Homes in Missouri, Mo. Res. Bul 857 (P); 16. J. A. Munger, The Impact of Urbanization on Housing and Community Facilities in Rural Areas of the Canadian Prairies (S); 17. R. A. Loomis, Combining Farm and Off-Farm Work (M); 18. H. M. Sauer, W. W. Bauder and J .C. Biggar, Retirement Plans, Concepts, and Attitudes of Farm Operators in Three Eastern South Dakota Counties, S. D. Agr. Expt. Sta. (M); 19. J. M. Davis, New England Farm Vacation Facilities, ERS (M); 20. Rural Areas Development Newsletter No. 65 (P); 21. A. D. Jones, Scouring, Baling and Transporting Western Wools: Practices, Problems, Possibilities, MRR (M); 22. K. Bird, Innovations in Marketing Farm Products: A Closer Look (M); 23. Marketing and Transportation Situation, MTS-155 (P); 24. C. J. Warren (SM); 25. H. H. Holm, Turkey's Agricultural Economy in Brief, ERS-For. 97 (P); 26. C. B. Singleton, Jr. The Agricultural Economy of Tanganyika, ERS-For. 92 (P); 27. S. W. Skinner, Nigeria's Agricultural Economy in Brief, ERS-For. 98 (P); 28. L. Moe, Summary and Evaluation, Nigeria: Determinants of Projected Level of Demand, Supply and Imports of Farm Products in 1965 and 1975, with Implications for U.S. Agriculture, ERS-For. 32 (P); 29. Foreign Regional Analysis Division, The World Food Budget, 1970, FAER-19 (P); Foreign Agricultural Trade, Nov. '64 (P); 31. Foreign Regional Analysis Division (SM); 32. A. C. Manchester, Latest Trends and Prospects in Dairy Consumption (S); 33. P. B. Dwoskin, Research in Development for Improved Family Living (S); 34. R. Lifquist and J. B. Bullock (SM).

Speech (S); published report (P); unpublished manuscript (M); special material (SM).

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SUPPLEMENT TO STATISTICS ON THE EUROPEAN ECONOMIC COMMUNITY — VOL. 1, AGRICULTURAL TRADE AND FINANCE. Development and Trade Analysis Division. ERS-Foreign 43 (Revised May 1964).

This report updates the previous publication issued in December 1962 by providing comparable trade and financial data for the calendar years 1961 and 1962. Statistics are included on the EEC's imports by origin, per capita value of total imports and the agricultural imports from other countries.

SOVIET AGRICULTURE TODAY. Report of the 1963 Agriculture Exchange Delegation. FAER-13.

In the Soviet Union a battle for bigger crops and more livestock is the story of agriculture today. The fact that the population of the Soviet Union is not only growing but becoming increasingly urbanized as industry develops, accentuates the need for greater farm output and changes in the composition of farm production. Urbanization not only decreases the manpower on farms but normally brings with it a desire for higher quality diets—more animal and dairy products, sugar, vegetables and fruits. Political and psychological factors have also made more urgent the long promised improvements in living standards.

THE FARM INDEX

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